SILVACO

SILVACO Management Console (SMAN)

User's Manual

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Style Conventions		
Font Style/Convention	**Description**	**Example**
•	This represents a list of items or terms.	• Bullet A • Bullet B • Bullet C
1. 2. 3.	This represents a set of directions to perform an action.	To open a door: 1. Unlock the door by inserting the key into keyhole. 2. Turn key counter-clockwise. 3. Pull out the key from the keyhole. 4. Grab the doorknob and turn clockwise and pull.
→	This represents a sequence of menu options and GUI buttons to perform an action.	**File→Open**
`Courier`	This represents the commands, parameters, and variables syntax.	`HAPPY BIRTHDAY`
Times Roman Bold	This represents the menu options and buttons in the GUI.	**File**
New Century Schoolbook Italics	This represents the variables of equations.	$x + y = 1$
Note:	This represents the additional important information.	**Note:** Make sure you save often when working on a manual.
TIMES NEW ROMAN IN SMALL CAPS	This represents the names of the SILVACO products.	ATHENA and ATLAS.

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Chapter 1
Introduction

1.1 What is the SILVACO Management Console

The SILVACO Management Console (SMAN) is a tool used primarily for diagnostics and to provide support engineers with all the necessary information for fixing a SILVACO installation.

SMAN is available on multiple operating systems, including Windows and Linux.

SMAN can act as a first line support tool for common setup problems and reference information. The tool has the ability to query but is not limited to such information as memory usage, processor information, machine architecture, communications information, and licensing.

This manual will describe the common uses of the SMAN tool and how to provide a report to SILVACO support staff to help them diagnose any problems faced.

1.2 The SMAN Window

1.2.1 Running SMAN in Windows

To run the latest version of SMAN, double-click the shortcut or select it from the Start Menu. The SMAN Window will appear as shown in Figure 1-1. The SMAN Window has six main areas: Menu, Tool Bar, Action Window, Output Window, Status Bar, and Copyright Window.

The Action Window is where you choose and perform actions. The Output Window contains output for each of the actions. In some cases, further input is required, which is entered in the Output Window. The Menu and Tool Bar windows simply allow quick access to some of the actions. The Status Bar provides a summary of the current action. The Copyright Window displays the copyright information of the program.

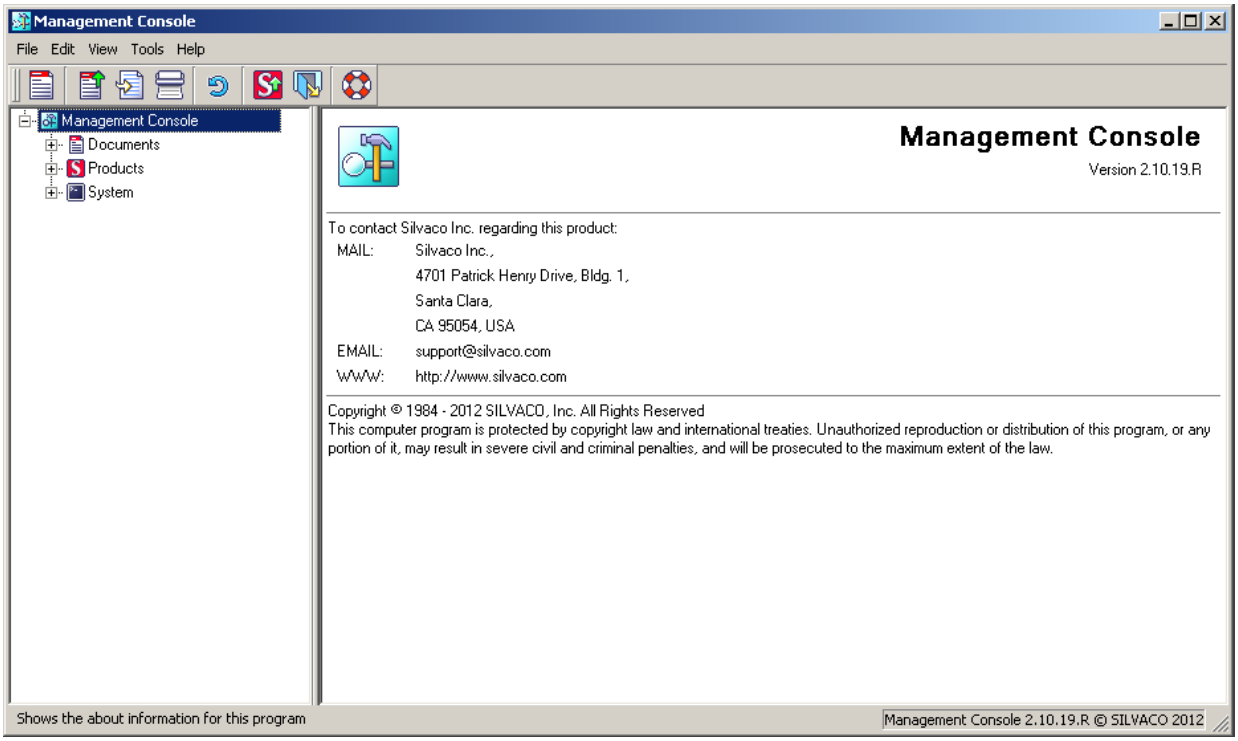

Management Console
File Edit View Tools Help
Management Console
Documents
Products
System
Management Console
Version 2.10.19.R
To contact Silvaco Inc. regarding this product:
MAIL: Silvaco Inc.,
4701 Patrick Henry Drive, Bldg. 1,
Santa Clara,
CA 95054, USA
EMAIL: support@silvaco.com
WWW: http://www.silvaco.com
Copyright © 1984 - 2012 SILVACO, Inc. All Rights Reserved
This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent of the law.
Shows the about information for this program
Management Console 2.10.19.R © SILVACO 2012

Figure 1-1 The SMAN Window

1.2.2 Running SMAN in UNIX/Linux

To run the latest version of SMAN, run the program from `$SILVACO/bin/sman` where `$SILVACO` is the installation directory.

Chapter 2
Actions

2.1 About Screen

The About screen (Figure 2-1) shows the following information about the program, version number, support details and copyright information. To open this screen, select **Help→About**.

About
SILVACO
SMAN
Management Console
Version 2.10.19.R
To contact SILVACO, Inc. regarding this product :
MAIL: SILVACO, Inc.,
4701 Patrick Henry Drive, Bldg. 2,
Santa Clara, CA 95054, USA
EMAIL: support@silvaco.com
WWW: http://www.silvaco.com
Copyright © 1984 - 2012 SILVACO, Inc.
All Rights Reserved
This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.
More Details
OK

Figure 2-1 About Screen

2.2 Documents Screen

The Documents Screen (Figure 2-2) shows you the documents that are installed in the SILVACO installation directory. These documents include manuals, release notes and support documents.

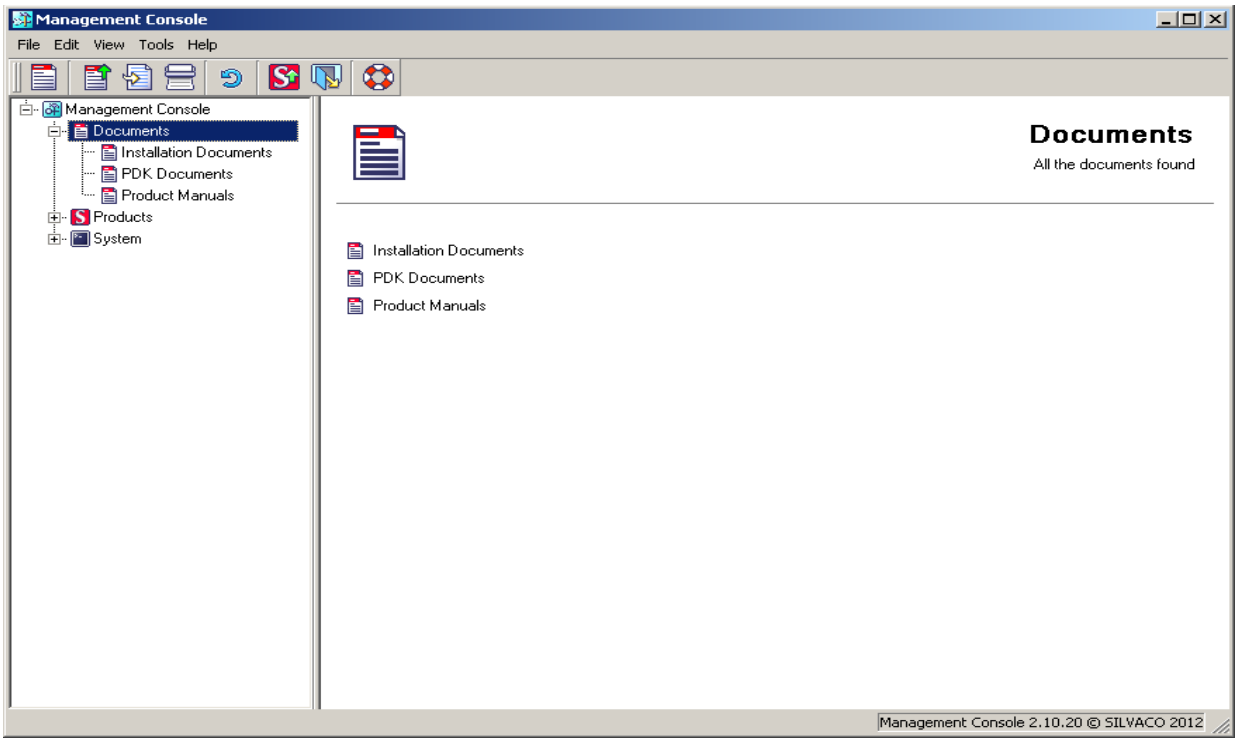


Figure 2-2 Documents Screen

The **Documents** output (Figure 2-3) is split into three sections:

- Product documentation
- Installation guides
- PDK documentation

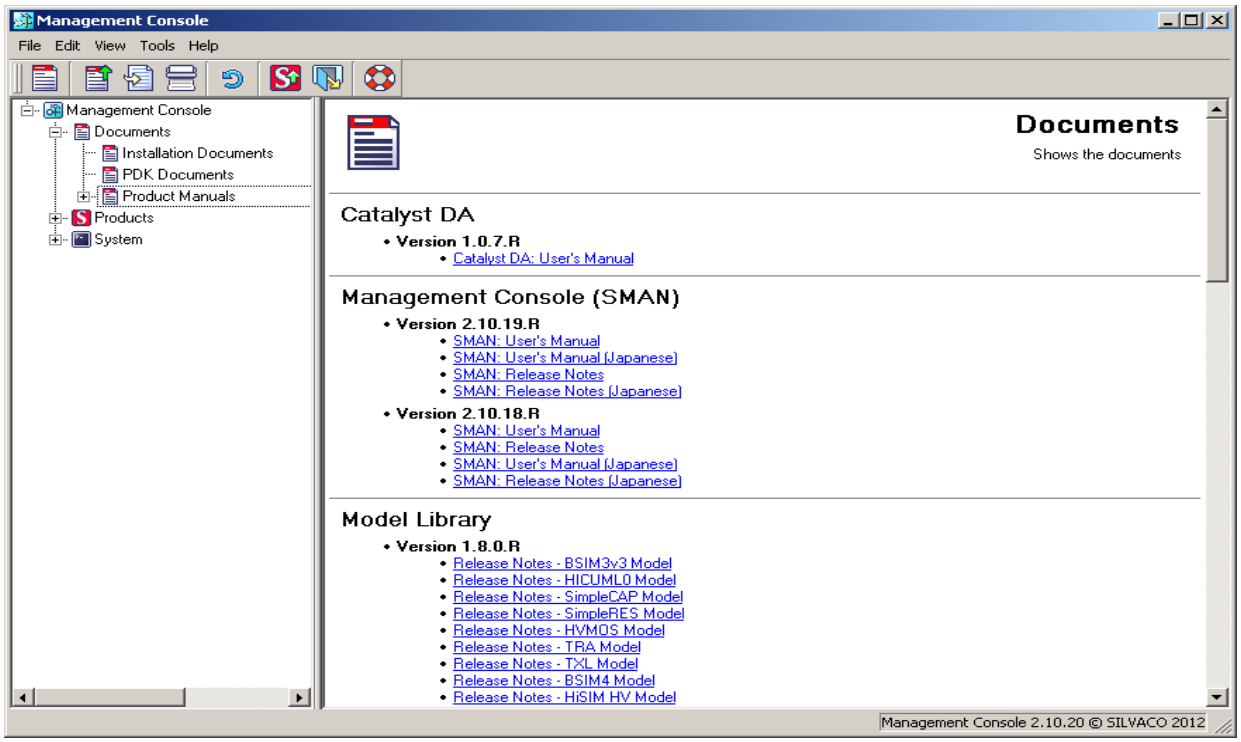


Figure 2-3 Product and Application Documents

Installation Guides (Figure 2-4) show the user how to setup the Silvaco installation correctly, including documentation for SFLM, SMAN, and TCAD..

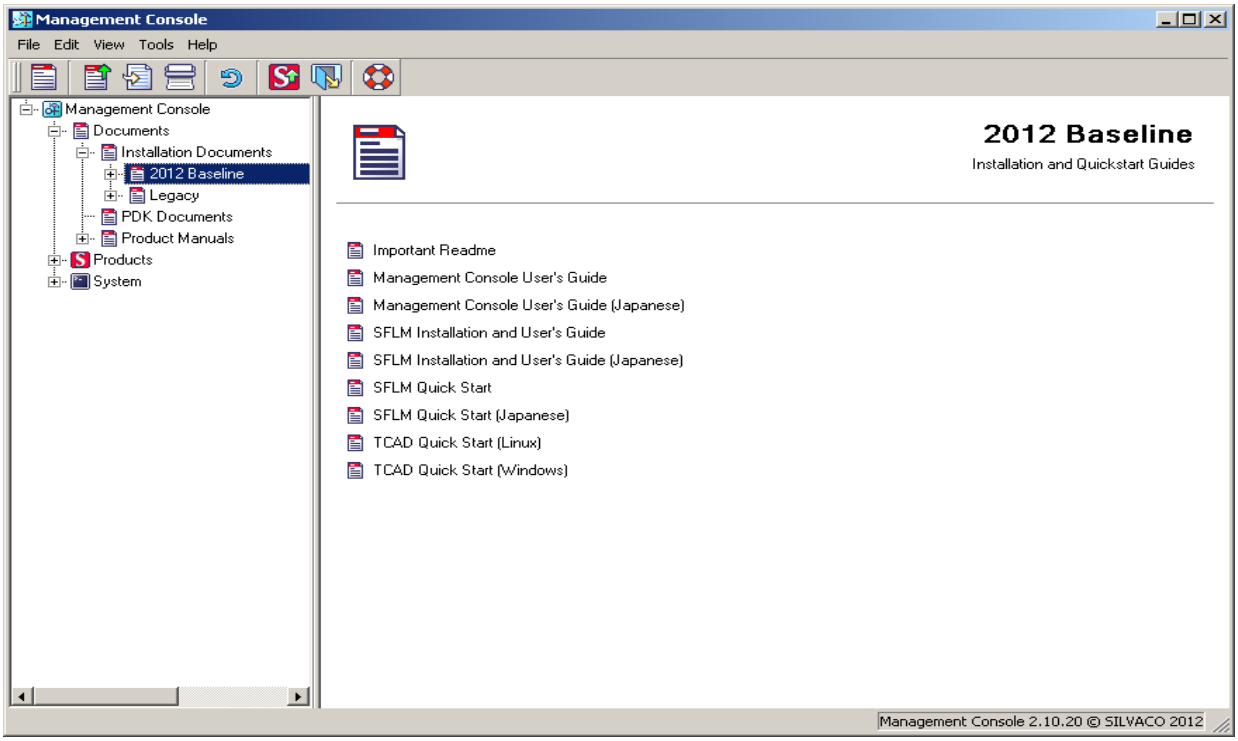


Figure 2-4 Installation Guides

PDK documents (Figure 2-5) are documents that contain the description and release notes of the PDK collections installed.

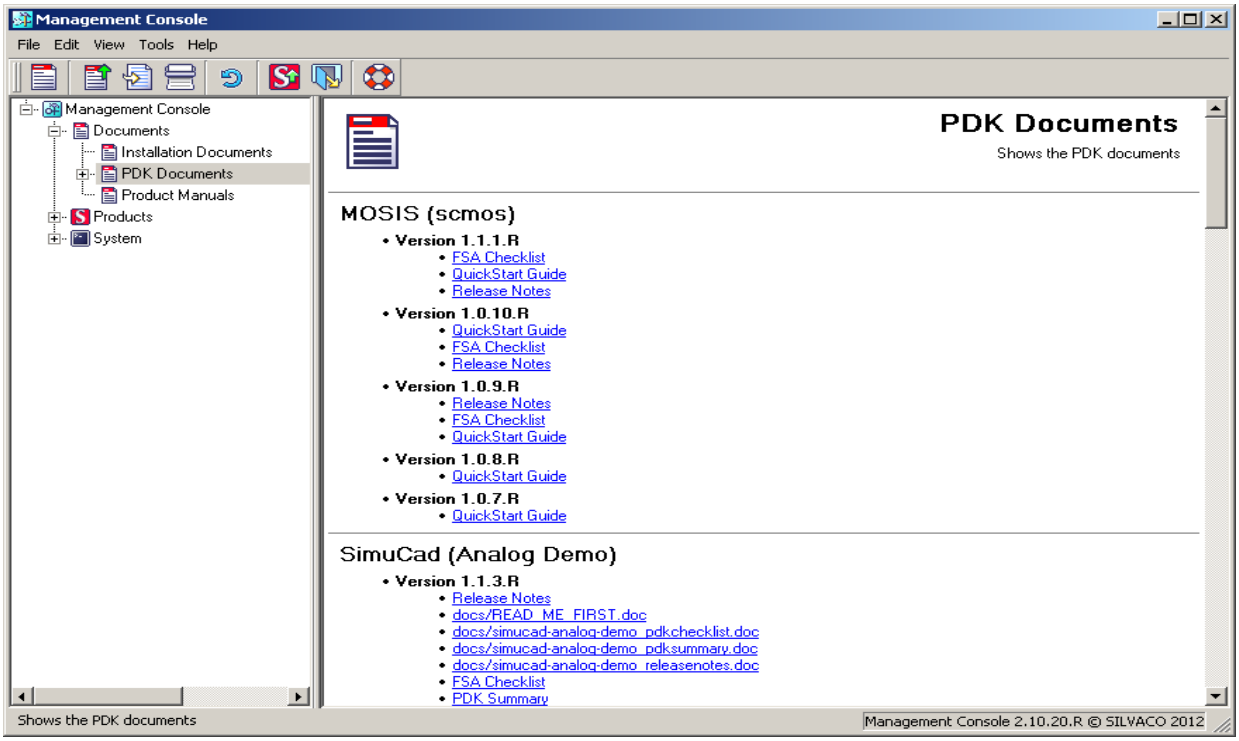


Figure 2-5 PDK Documents

2.3 Products Screen

The Products screen shows all the installed products in the current SILVACO installation and allows you to add and manage new updates received from SILVACO. The main Products screen (Figure 2-6) groups the products into their natural collections/packages.

Management Console
File Edit View Tools Help
Management Console
Documents
Products
System
Products
EDA Tools (Updates)
SILVACO
Silvaco delivers a comprehensive set of EDA and TCAD tools that enable companies around the world to design analog and mixed-signal integrated circuits. IC designers use our IC CAD products to design and simulate analog circuits. Closure between manufacturing and design depends on accurately extracted device models and accurate circuit simulation.
ANALOG / MIXED-SIGNAL / RF
Complete family of full-chip and circuit simulation products for analog, mixed-signal, and RF. These simulators are driven from Simucad's PDK-based AMS/RF design environment.
Gateway
Harmony
SmartSpice
SmartSpice RF
Spayn
Utmost III
Utmost IV
etc...
CUSTOM IC CAD
PDK-based design flow with schematic, layout, physical verification, and parasitic extraction. This schematic driven layout flow is integrated with Simucad's complete family of circuit and full-chip simulators.
Expert
Guardian
HIPEX
Products
Management Console 2.10.20.R © SILVACO 2012

Figure 2-6 Products Screen

The natural grouping of the products in collections/packages are:

- Analog & Mixed Signal
- Custom IC CAD
- Digital CAD
- Interconnect Modeling
- TCAD

In addition to these groups, two more options are also available:

- Add and Manage Updates
- All Applications

2.3.1 Analog & Mixed Signal Screen

The Analog & Mixed Signal screen (Figure 2-7) details all the products that fall into the Analog & Mixed Signal (AMS) package. The AMS package includes tools that allow you to perform design, simulation, and model extraction services.

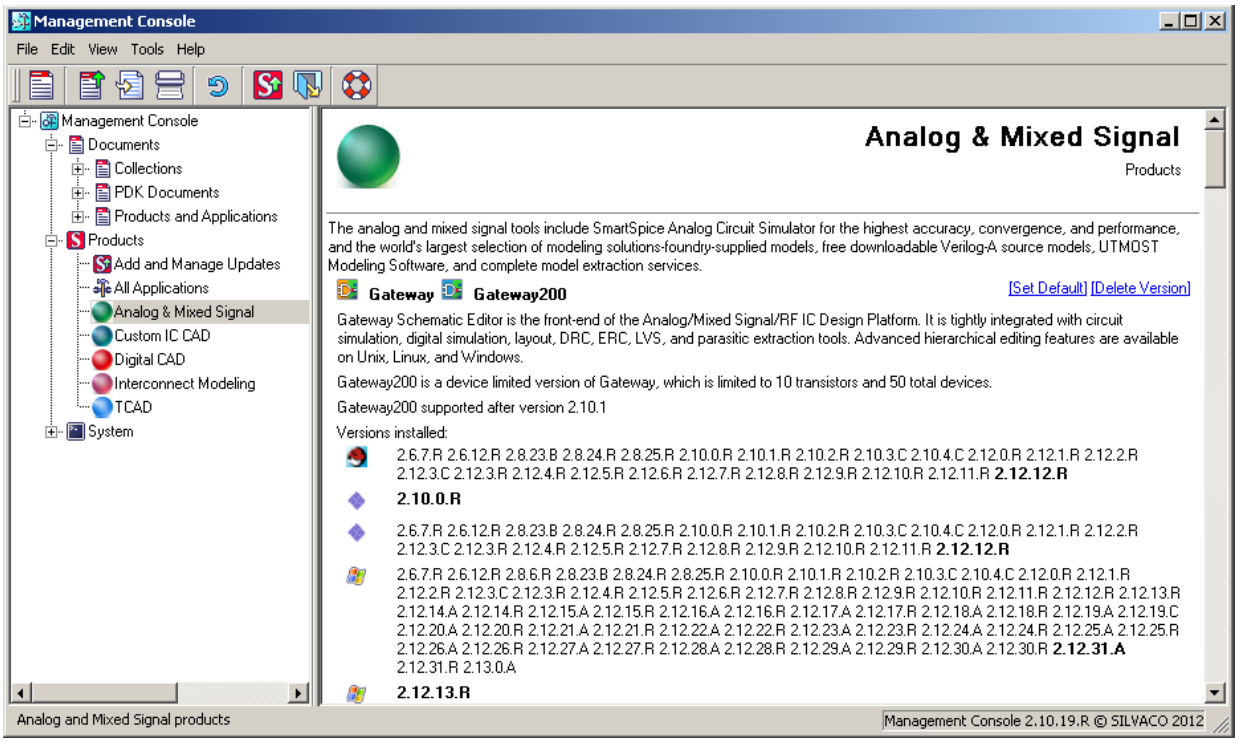

Management Console
File Edit View Tools Help
Management Console
Documents
Collections
PDK Documents
Products and Applications
Products
Add and Manage Updates
All Applications
Analog & Mixed Signal
Custom IC CAD
Digital CAD
Interconnect Modeling
TCAD
System
Analog & Mixed Signal
Products
The analog and mixed signal tools include SmartSpice Analog Circuit Simulator for the highest accuracy, convergence, and performance, and the world's largest selection of modeling solutions-foundry-supplied models, free downloadable Verilog-A source models, UTMOST Modeling Software, and complete model extraction services.
Gateway Gateway200
[Set Default] [Delete Version]
Gateway Schematic Editor is the front-end of the Analog/Mixed Signal/RF IC Design Platform. It is tightly integrated with circuit simulation, digital simulation, layout, DRC, ERC, LVS, and parasitic extraction tools. Advanced hierarchical editing features are available on Unix, Linux, and Windows.
Gateway200 is a device limited version of Gateway, which is limited to 10 transistors and 50 total devices.
Gateway200 supported after version 2.10.1
Versions installed:
2.6.7.R 2.6.12.R 2.8.23.B 2.8.24.R 2.8.25.R 2.10.0.R 2.10.1.R 2.10.2.R 2.10.3.C 2.10.4.C 2.12.0.R 2.12.1.R 2.12.2.R 2.12.3.C 2.12.3.R 2.12.4.R 2.12.5.R 2.12.6.R 2.12.7.R 2.12.8.R 2.12.9.R 2.12.10.R 2.12.11.R 2.12.12.R
2.10.0.R
2.6.7.R 2.6.12.R 2.8.23.B 2.8.24.R 2.8.25.R 2.10.0.R 2.10.1.R 2.10.2.R 2.10.3.C 2.10.4.C 2.12.0.R 2.12.1.R 2.12.2.R 2.12.3.C 2.12.3.R 2.12.4.R 2.12.5.R 2.12.7.R 2.12.8.R 2.12.9.R 2.12.10.R 2.12.11.R 2.12.12.R
2.6.7.R 2.6.12.R 2.8.6.R 2.8.23.B 2.8.24.R 2.8.25.R 2.10.0.R 2.10.1.R 2.10.2.R 2.10.3.C 2.10.4.C 2.12.0.R 2.12.1.R 2.12.2.R 2.12.3.C 2.12.3.R 2.12.4.R 2.12.5.R 2.12.6.R 2.12.7.R 2.12.8.R 2.12.9.R 2.12.10.R 2.12.11.R 2.12.12.R 2.12.13.R 2.12.14.A 2.12.14.R 2.12.15.A 2.12.15.R 2.12.16.A 2.12.16.R 2.12.17.A 2.12.17.R 2.12.18.A 2.12.18.R 2.12.19.A 2.12.19.C 2.12.20.A 2.12.20.R 2.12.21.A 2.12.21.R 2.12.22.A 2.12.22.R 2.12.23.A 2.12.23.R 2.12.24.A 2.12.24.R 2.12.25.A 2.12.25.R 2.12.26.A 2.12.26.R 2.12.27.A 2.12.27.R 2.12.28.A 2.12.28.R 2.12.29.A 2.12.29.R 2.12.30.A 2.12.30.R 2.12.31.A 2.12.31.R 2.13.0.A
2.12.13.R
Analog and Mixed Signal products
Management Console 2.10.19.R © SILVACO 2012

Figure 2-7 Analog & Mixed Signal Screen

The following products are in the AMS package:

- UTMOST III: This tool performs data acquisition, device characterization, parameter extraction, and model verification.
- UTMOST IV: UTMOST IV Optimization Module provides an easy to use database-driven environment to generate accurate high quality SPICE models and macro-models for analog, mixed-signal, and RF applications.
- SPAYN: This is the ideal statistical modeling tool for analyzing variances from model parameter extraction sequences, electrical test routines, and circuit test measurements.
- GATEWAY: Schematic capture tool.
- HARMONY: Analog/Mixed-Signal Simulator.
- SMARTSPICE: Analog Circuit Simulator.
- SMARTSPICERF: Harmonic Balance based Simulator.

2.3.2 Custom IC CAD Screen

The Custom IC CAD screen (Figure 2-8) details all the products that fall into the Custom IC CAD package. This package includes tools that allows you to perform layout and LVS.

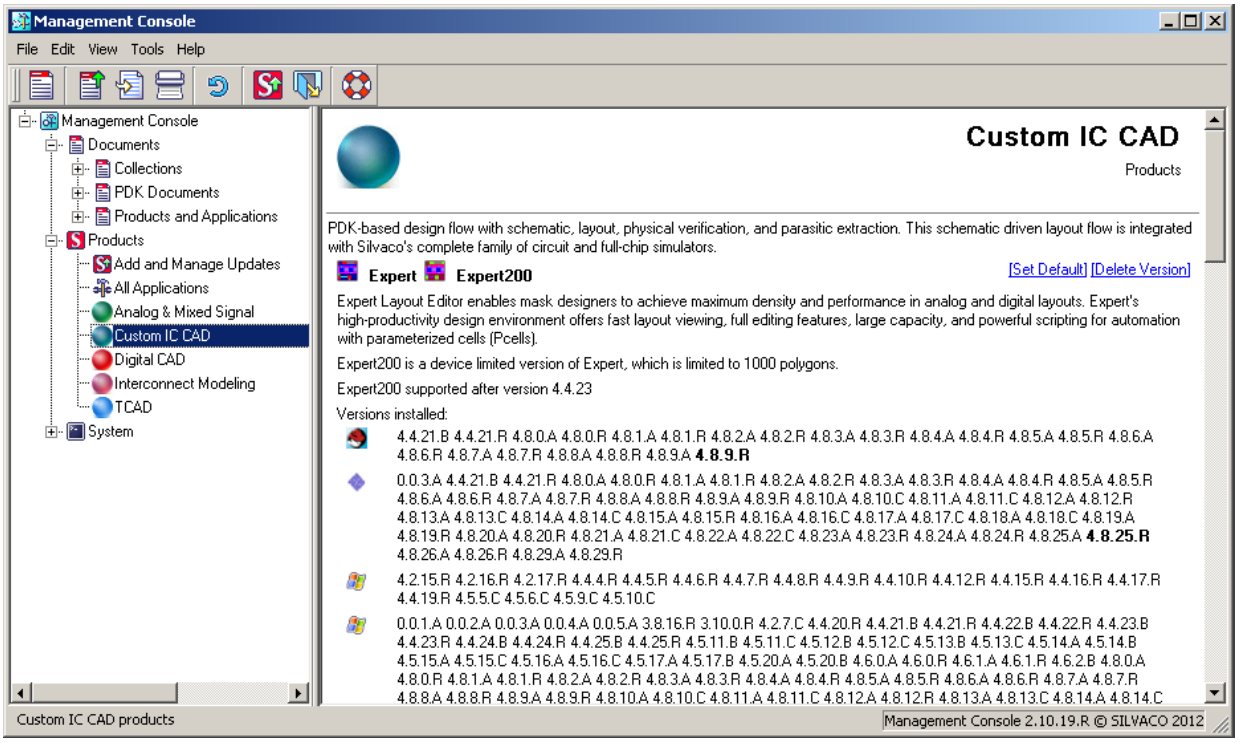

Management Console
File Edit View Tools Help
Management Console
Documents
Collections
PDK Documents
Products and Applications
Products
Add and Manage Updates
All Applications
Analog & Mixed Signal
Custom IC CAD
Digital CAD
Interconnect Modeling
TCAD
System
Custom IC CAD
Products
PDK-based design flow with schematic, layout, physical verification, and parasitic extraction. This schematic driven layout flow is integrated with Silvaco's complete family of circuit and full-chip simulators.
Expert Expert200
[Set Default] [Delete Version]
Expert Layout Editor enables mask designers to achieve maximum density and performance in analog and digital layouts. Expert's high-productivity design environment offers fast layout viewing, full editing features, large capacity, and powerful scripting for automation with parameterized cells (Pcells).
Expert200 is a device limited version of Expert, which is limited to 1000 polygons.
Expert200 supported after version 4.4.23
Versions installed:
4.4.21.B 4.4.21.R 4.8.0.A 4.8.0.R 4.8.1.A 4.8.1.R 4.8.2.A 4.8.2.R 4.8.3.A 4.8.3.R 4.8.4.A 4.8.4.R 4.8.5.A 4.8.5.R 4.8.6.A 4.8.6.R 4.8.7.A 4.8.7.R 4.8.8.A 4.8.8.R 4.8.9.A 4.8.9.R
0.0.3.A 4.4.21.B 4.4.21.R 4.8.0.A 4.8.0.R 4.8.1.A 4.8.1.R 4.8.2.A 4.8.2.R 4.8.3.A 4.8.3.R 4.8.4.A 4.8.4.R 4.8.5.A 4.8.5.R 4.8.6.A 4.8.6.R 4.8.7.A 4.8.7.R 4.8.8.A 4.8.8.R 4.8.9.A 4.8.9.R 4.8.10.A 4.8.10.C 4.8.11.A 4.8.11.C 4.8.12.A 4.8.12.R 4.8.13.A 4.8.13.C 4.8.14.A 4.8.14.C 4.8.15.A 4.8.15.R 4.8.16.A 4.8.16.C 4.8.17.A 4.8.17.C 4.8.18.A 4.8.18.C 4.8.19.A 4.8.19.R 4.8.20.A 4.8.20.R 4.8.21.A 4.8.21.C 4.8.22.A 4.8.22.C 4.8.23.A 4.8.23.R 4.8.24.A 4.8.24.R 4.8.25.A 4.8.25.R 4.8.26.A 4.8.26.R 4.8.29.A 4.8.29.R
4.2.15.R 4.2.16.R 4.2.17.R 4.4.4.R 4.4.5.R 4.4.6.R 4.4.7.R 4.4.8.R 4.4.9.R 4.4.10.R 4.4.12.R 4.4.15.R 4.4.16.R 4.4.17.R 4.4.19.R 4.5.5.C 4.5.6.C 4.5.9.C 4.5.10.C
0.0.1.A 0.0.2.A 0.0.3.A 0.0.4.A 0.0.5.A 3.8.16.R 3.10.0.R 4.2.7.C 4.4.20.R 4.4.21.B 4.4.21.R 4.4.22.B 4.4.22.R 4.4.23.B 4.4.23.R 4.4.24.B 4.4.24.R 4.4.25.B 4.4.25.R 4.5.11.B 4.5.11.C 4.5.12.B 4.5.12.C 4.5.13.B 4.5.13.C 4.5.14.A 4.5.14.B 4.5.15.A 4.5.15.C 4.5.16.A 4.5.16.C 4.5.17.A 4.5.17.B 4.5.20.A 4.5.20.B 4.6.0.A 4.6.0.R 4.6.1.A 4.6.1.R 4.6.2.B 4.8.0.A 4.8.0.R 4.8.1.A 4.8.1.R 4.8.2.A 4.8.2.R 4.8.3.A 4.8.3.R 4.8.4.A 4.8.4.R 4.8.5.A 4.8.5.R 4.8.6.A 4.8.6.R 4.8.7.A 4.8.7.R 4.8.8.A 4.8.8.R 4.8.9.A 4.8.9.R 4.8.10.A 4.8.10.C 4.8.11.A 4.8.11.C 4.8.12.A 4.8.12.R 4.8.13.A 4.8.13.C 4.8.14.A 4.8.14.C
Custom IC CAD products
Management Console 2.10.19.R © SILVACO 2012

Figure 2-8 Custom IC CAD Screen

The following products are in the Custom IC CAD package:

- EXPERT: The Layout Editor
- GUARDIAN DRC/LVS/LPE: The Design Rule Checker, Layout Vs. Schematic and Layout Parameter Extraction tool.

2.3.3 Digital CAD Screen

The Digital CAD screen (Figure 2-9) details all the products that fall into the Digital CAD package. This package includes tools that allow you to perform digital simulations and verification of digital simulations.

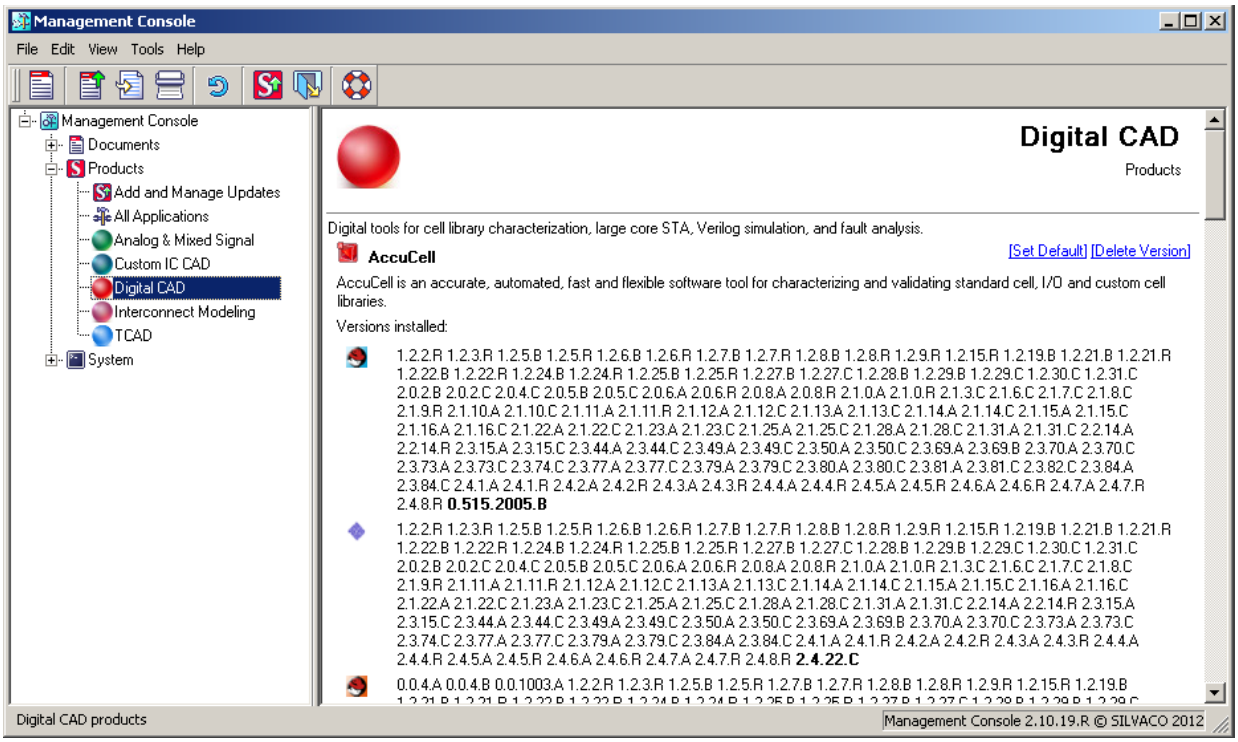


Figure 2-9 Digital CAD Screen

The following products are in the Digital CAD package:

- SILOS: Verilog Simulator
- TURBOLINT: Programmable HDL Checker
- HYPERFAULT: Mixed Level Fault Simulator

2.3.4 Interconnect Modeling Screen

The Interconnect Modeling screen (Figure 2-10) details all the products that fall into the Interconnect Modeling package. This package includes tools that allow you to perform 2D and 3D interconnect modeling, and 2D and 3D field solving.

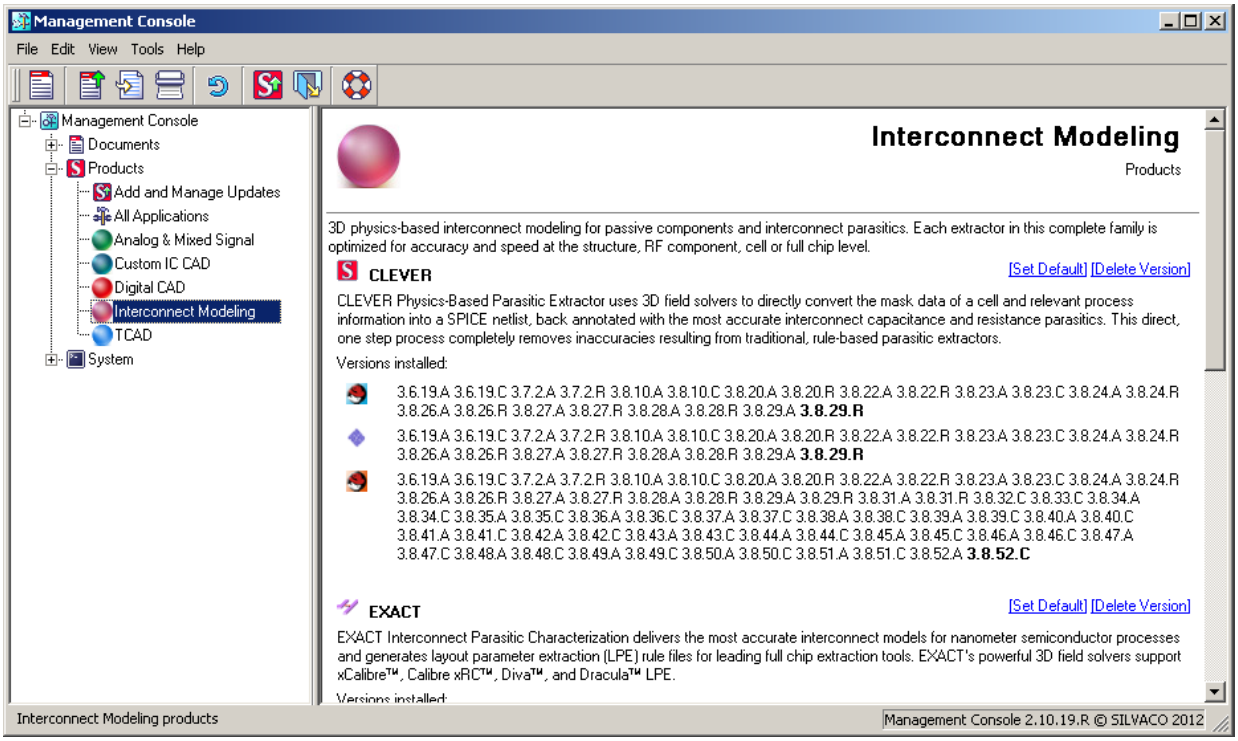


Figure 2-10 Interconnect Modeling Screen

The following products are in the Interconnect Modeling package:

- EXACT: 3D field solver.
- QUEST: Calculates 3D frequency dependent inductance, resistance, capacitance and capacitive loss for any multi-port network for RF SPICE analysis.
- CLEVER: Physics-Based Parasitic Extractor.
- STELLAR: Standard cell parasitic characterization.
- HIPEX: Full-Chip Parasitic Extractor.

2.3.5 TCAD Screen

The TCAD screen (Figure 2-11) details all the products that fall into the TCAD package. The TCAD package contains tools that allow you to model the behavior and characteristics of semiconductor devices and materials.

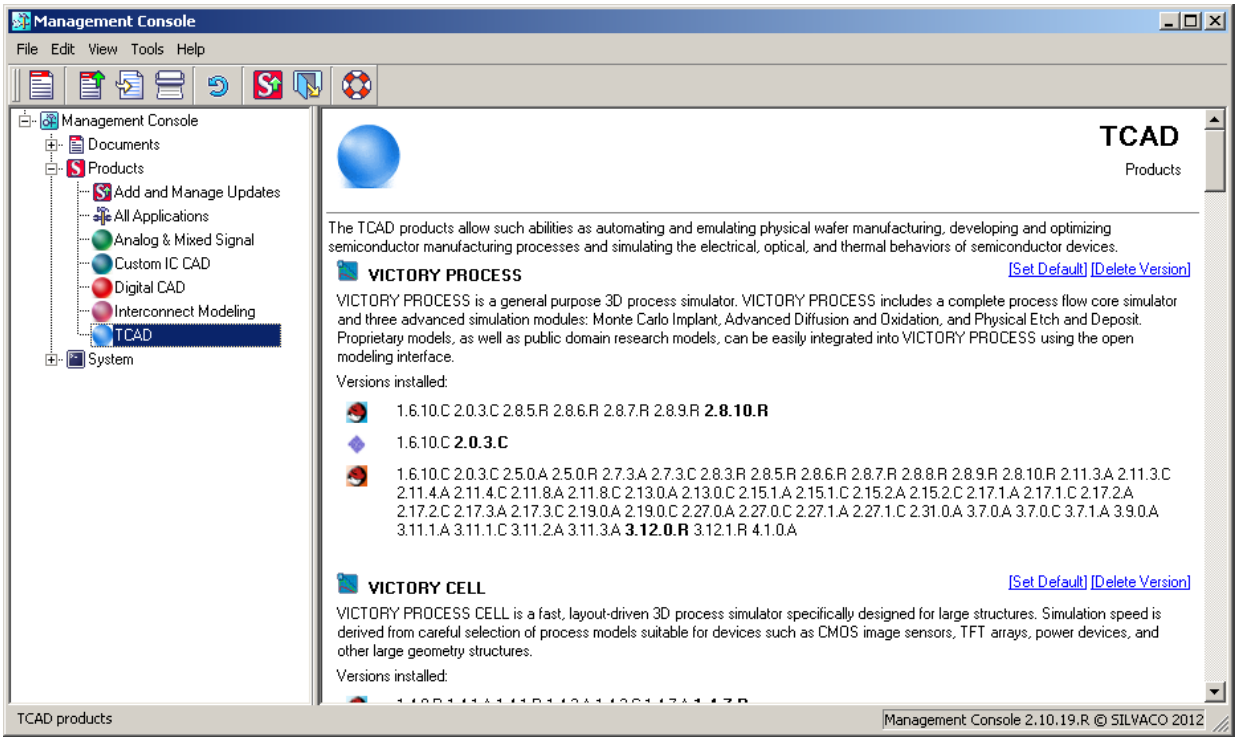

Management Console
File Edit View Tools Help
Management Console
Documents
Products
Add and Manage Updates
All Applications
Analog & Mixed Signal
Custom IC CAD
Digital CAD
Interconnect Modeling
TCAD
System
TCAD
Products
The TCAD products allow such abilities as automating and emulating physical wafer manufacturing, developing and optimizing semiconductor manufacturing processes and simulating the electrical, optical, and thermal behaviors of semiconductor devices.
VICTORY PROCESS
[Set Default] [Delete Version]
VICTORY PROCESS is a general purpose 3D process simulator. VICTORY PROCESS includes a complete process flow core simulator and three advanced simulation modules: Monte Carlo Implant, Advanced Diffusion and Oxidation, and Physical Etch and Deposit. Proprietary models, as well as public domain research models, can be easily integrated into VICTORY PROCESS using the open modeling interface.
Versions installed:
1.6.10.C 2.0.3.C 2.8.5.R 2.8.6.R 2.8.7.R 2.8.9.R 2.8.10.R
1.6.10.C 2.0.3.C
1.6.10.C 2.0.3.C 2.5.0.A 2.5.0.R 2.7.3.A 2.7.3.C 2.8.3.R 2.8.5.R 2.8.6.R 2.8.7.R 2.8.8.R 2.8.9.R 2.8.10.R 2.11.3.A 2.11.3.C 2.11.4.A 2.11.4.C 2.11.8.A 2.11.8.C 2.13.0.A 2.13.0.C 2.15.1.A 2.15.1.C 2.15.2.A 2.15.2.C 2.17.1.A 2.17.1.C 2.17.2.A 2.17.2.C 2.17.3.A 2.17.3.C 2.19.0.A 2.19.0.C 2.27.0.A 2.27.0.C 2.27.1.A 2.27.1.C 2.31.0.A 3.7.0.A 3.7.0.C 3.7.1.A 3.9.0.A 3.11.1.A 3.11.1.C 3.11.2.A 3.11.3.A 3.12.0.R 3.12.1.R 4.1.0.A
VICTORY CELL
[Set Default] [Delete Version]
VICTORY PROCESS CELL is a fast, layout-driven 3D process simulator specifically designed for large structures. Simulation speed is derived from careful selection of process models suitable for devices such as CMOS image sensors, TFT arrays, power devices, and other large geometry structures.
Versions installed:
TCAD products
Management Console 2.10.19.R © SILVACO 2012

Figure 2-11 TCAD Screen

The following products are in the TCAD package:

- VWF: The integrated environment for TCAD software.
- ATHENA: Develops and optimize semiconductor-manufacturing processes.
- ATLAS: Simulates the electrical, optical, and thermal behavior of semiconductor devices.
- MERCURY: The MESFET and HEMT simulation framework that contains:
  - FASTBLAZE
  - FASTNOISE
  - FASTDEVEDIT
  - MOCASIM

2.3.6 Add and Manage Updates Screen

The Add and Manage Updates screen (Figure 2-12) allows you to install and view installed updates that were placed in the SILVACO installation directory. For more information on Installing Updates, see Appendix A: “Installing Updates”.

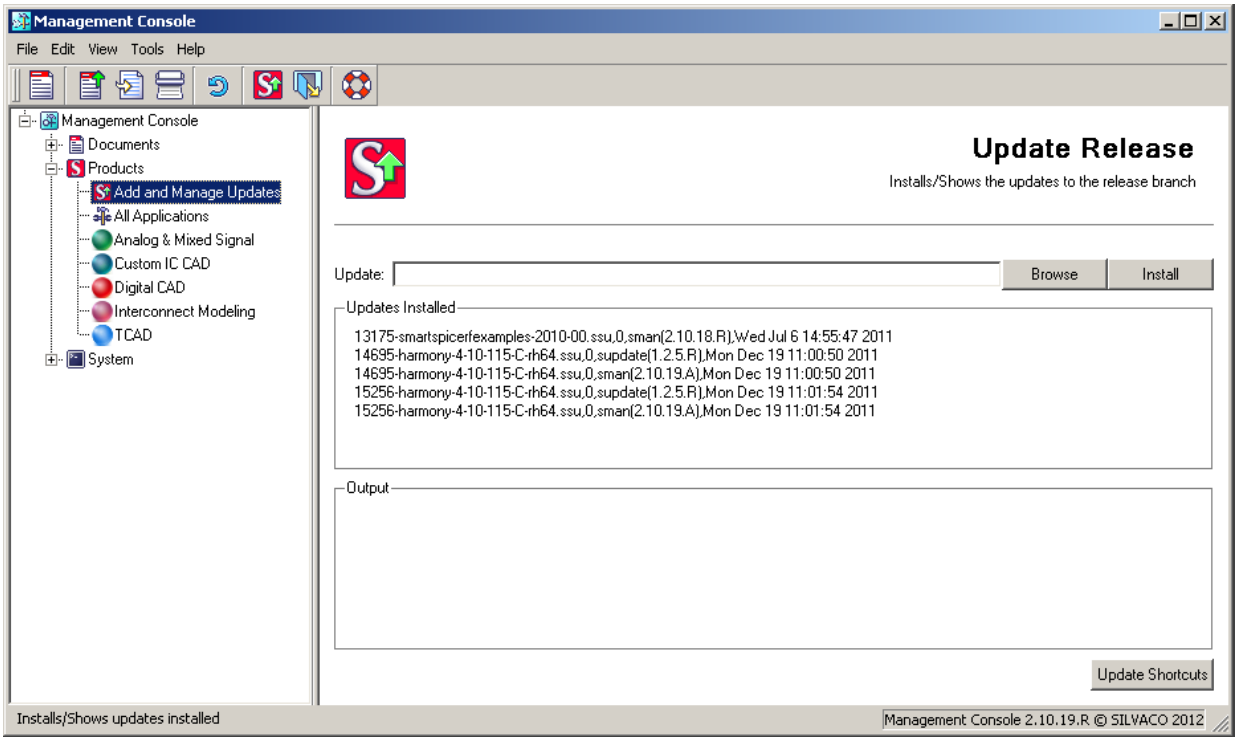


Figure 2-12 Add and Manage Updates Screen

The **Updates Installed** area informs you what updates are currently installed in the SILVACO installation directory.

The **Output** area will display the progress of the updates.

2.3.7 All Applications

The All Applications screen (Figure 2-13) details all the SILVACO products, including products that do not fall into a specific category and utility programs that other products use.

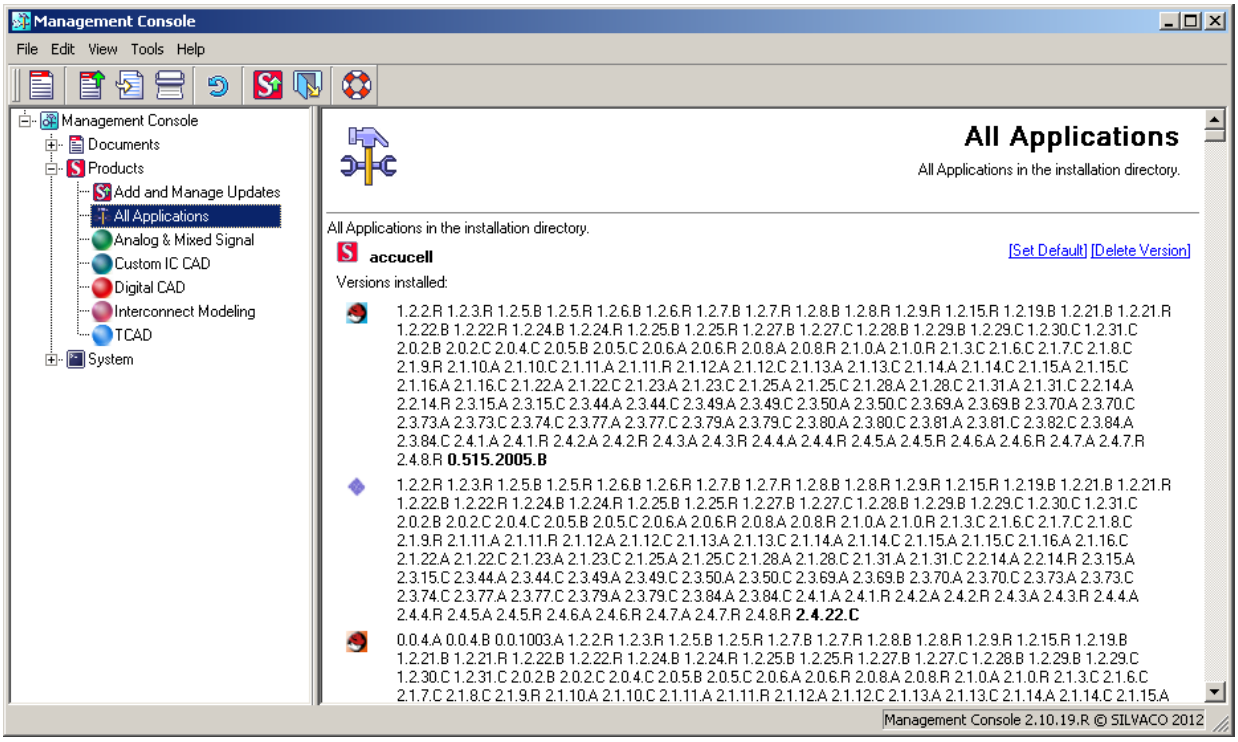


Figure 2-13 All Applications Screen

2.4 System Screen

The System Screen of the SMAN product is used to diagnose any specific problem on the current system and will check whether licensing and communications are available for the current machine.

The System Screen is split up into the following sections:

- System Information
- Communications
- Environment
- File Checksums
- Licensing
- Manage Encryption Keys
- Processes
- System Diagnostics

2.4.1 System Information

The System Information screen (Figure 2-14) returns all the important information about the system, such as **Operating System**, **Version**, **Name**, **Processor Information**, **User Information**, and **Memory Information**.

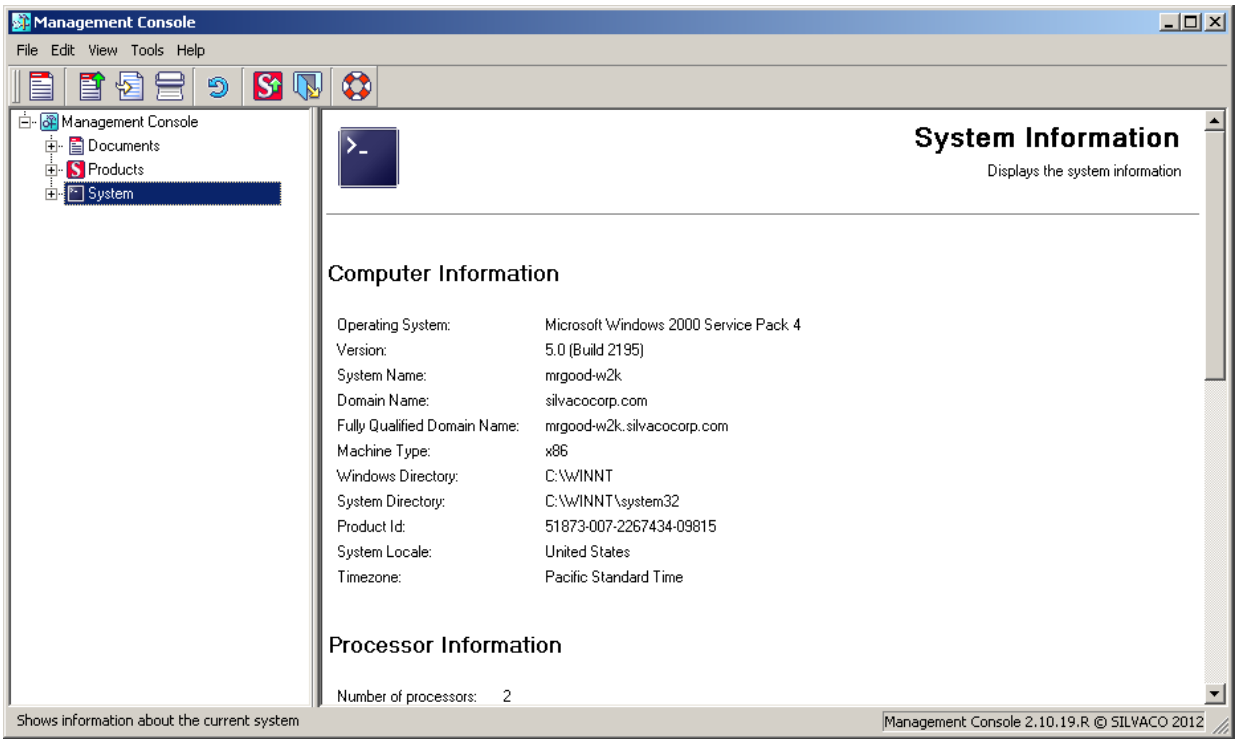


Figure 2-14 System Information Screen

2.4.2 Communications Information

The Communications Information screen (Figure 2-15) shows the communications information for SILVACO products. It contains the name of the communications server used, whether the server is local, and the currently running SILVACO products that are using **Communications** and the **Security file**.

The **Security file** is used to limit what products can be started by another SILVACO product a '+' allows full access.

The Communications Information screen also contains the diagnostics of the communications through the SILVACO communications library SIPC (SILVACO Inter-Process Communications).

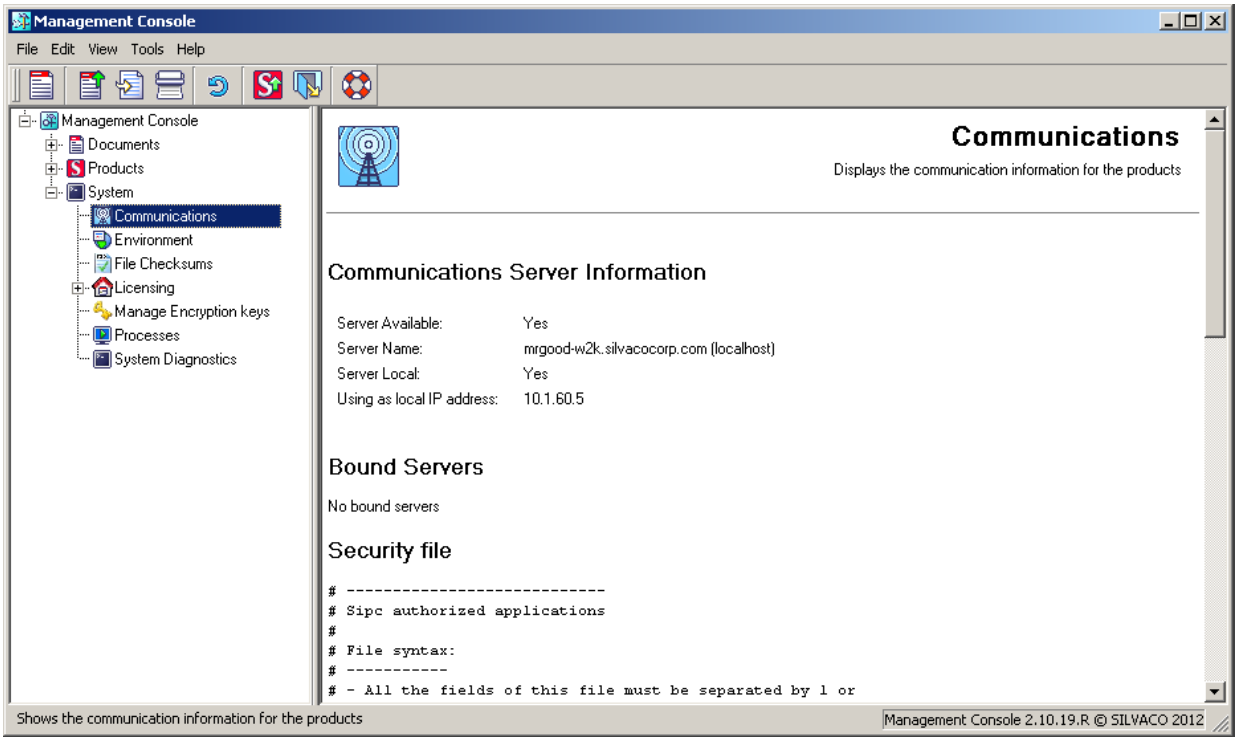


Figure 2-15 Communications Screen

2.4.3 Environment Information

The Environment Information screen (Figure 2-16) shows all of the environment variables set for SILVACO products and all the environment variables set by the system.

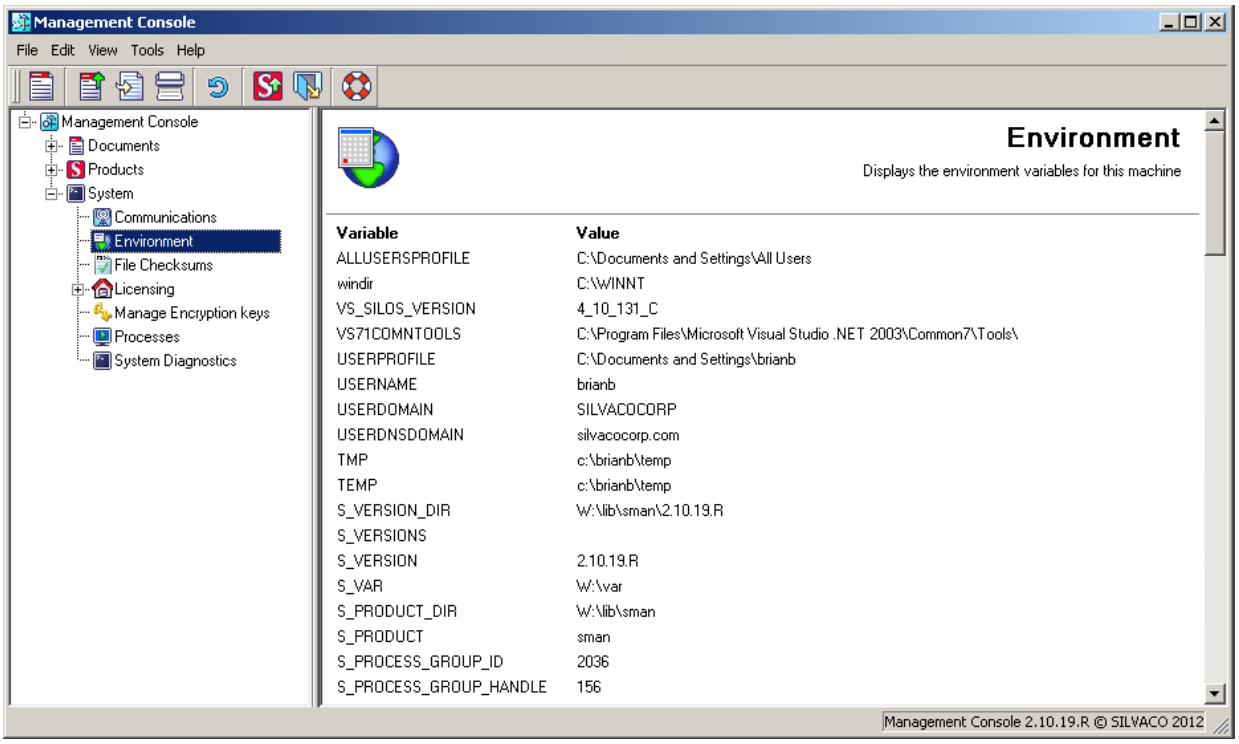


Figure 2-16 Environment Screen

2.4.4 File Checksums

The File Checksums screen (Figure 2-17) allows you to verify that the checksum of a downloaded update matches the checksum of the file on the control center. This makes sure that the file downloaded correctly and is not missing any information.

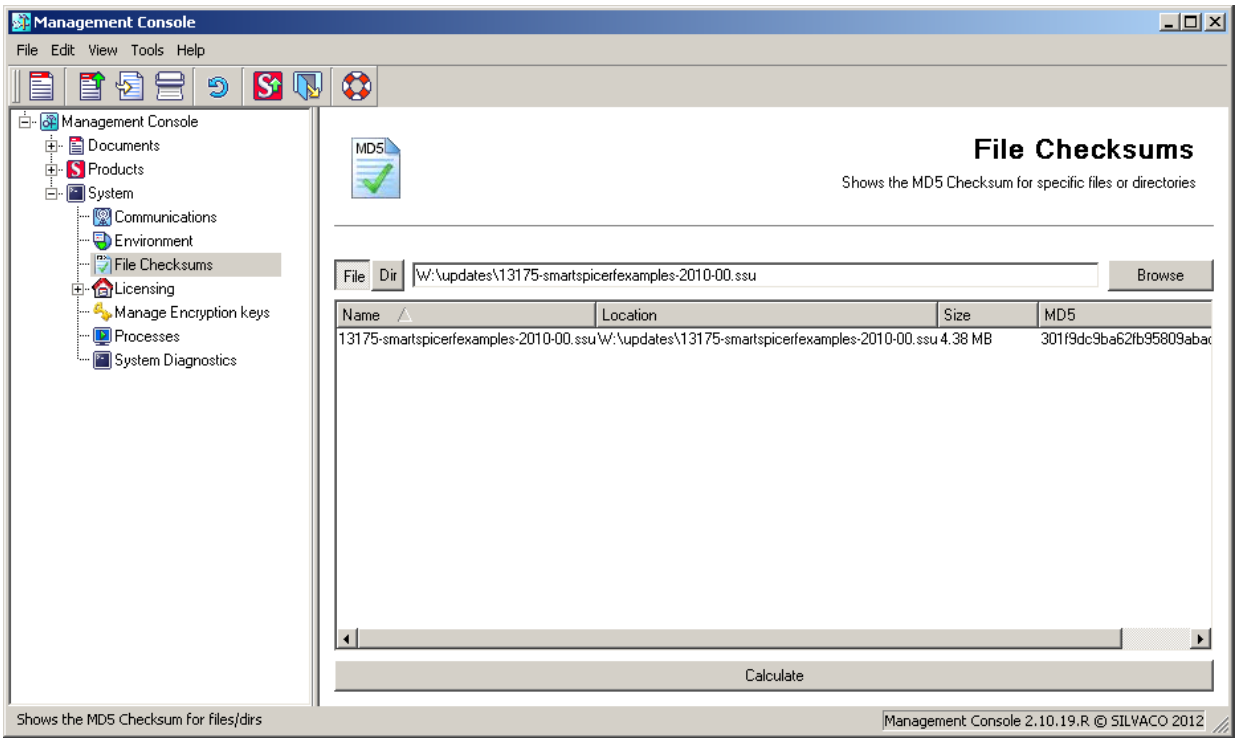


Figure 2-17 File Checksums Screen

2.4.5 Licensing Information

The Licensing Information screen (Figure 2-18) shows the licensing environment setup on this machine and informs you the status of the license monitor.

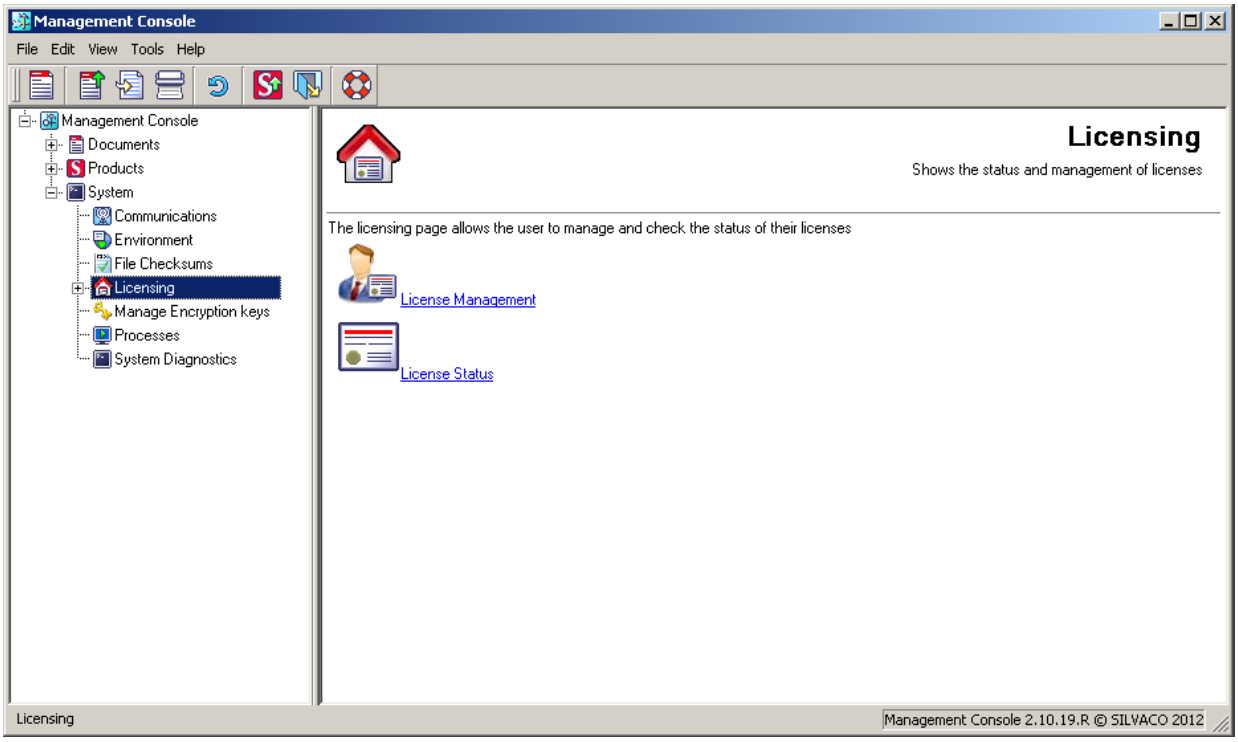


Figure 2-18 Licensing Screen

From the SMAN product, you can also manage the licensing server. On Windows, this is done through the SMAN product itself (see Figure 2-19). On UNIX machines, SMAN asks you to enter the name of the web browser to use to manage SFLM.

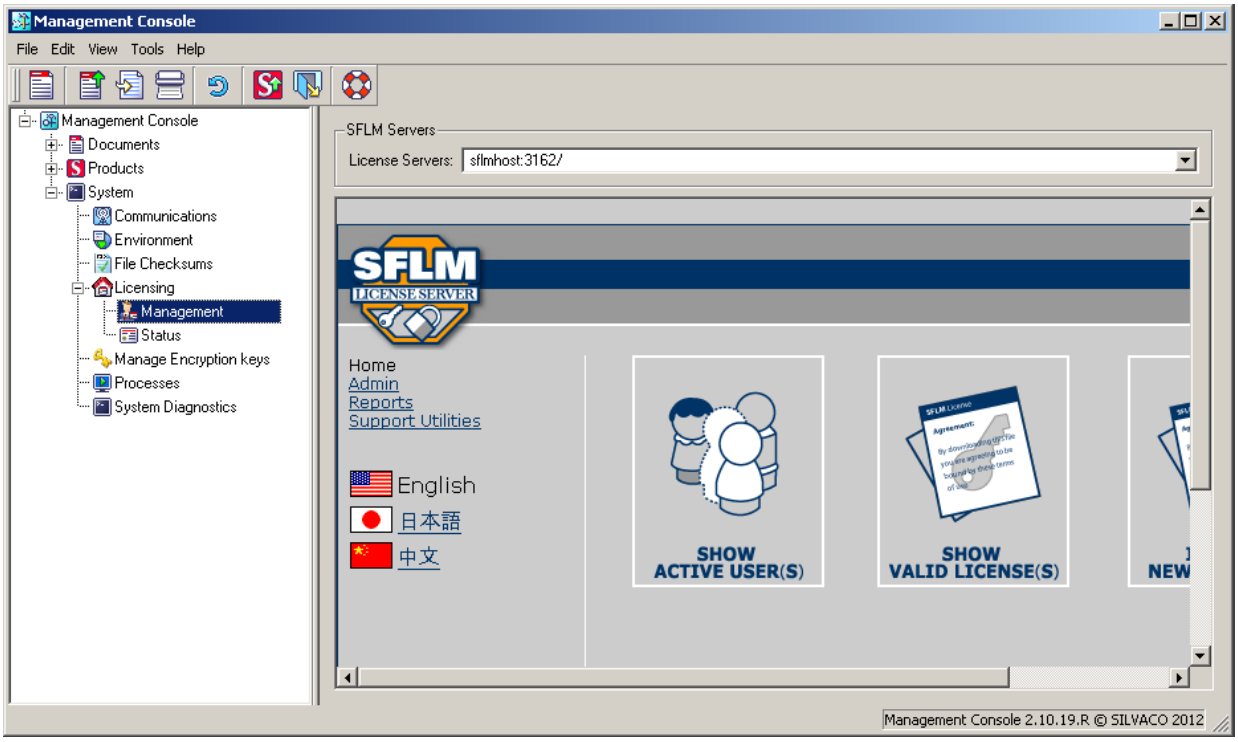


Figure 2-19 License Management Screen

2.4.6 Manage Encryption Keys

The Manage Encryption keys screen (Figure 2-20) displays the current encryption keys available in the installation area. The encryption keys are used along with the SENCRYPT tool to encrypt data files use by SILVACO tools. This screen allows you to **Add**, **Delete**, **Import**, and **Export** Keys.

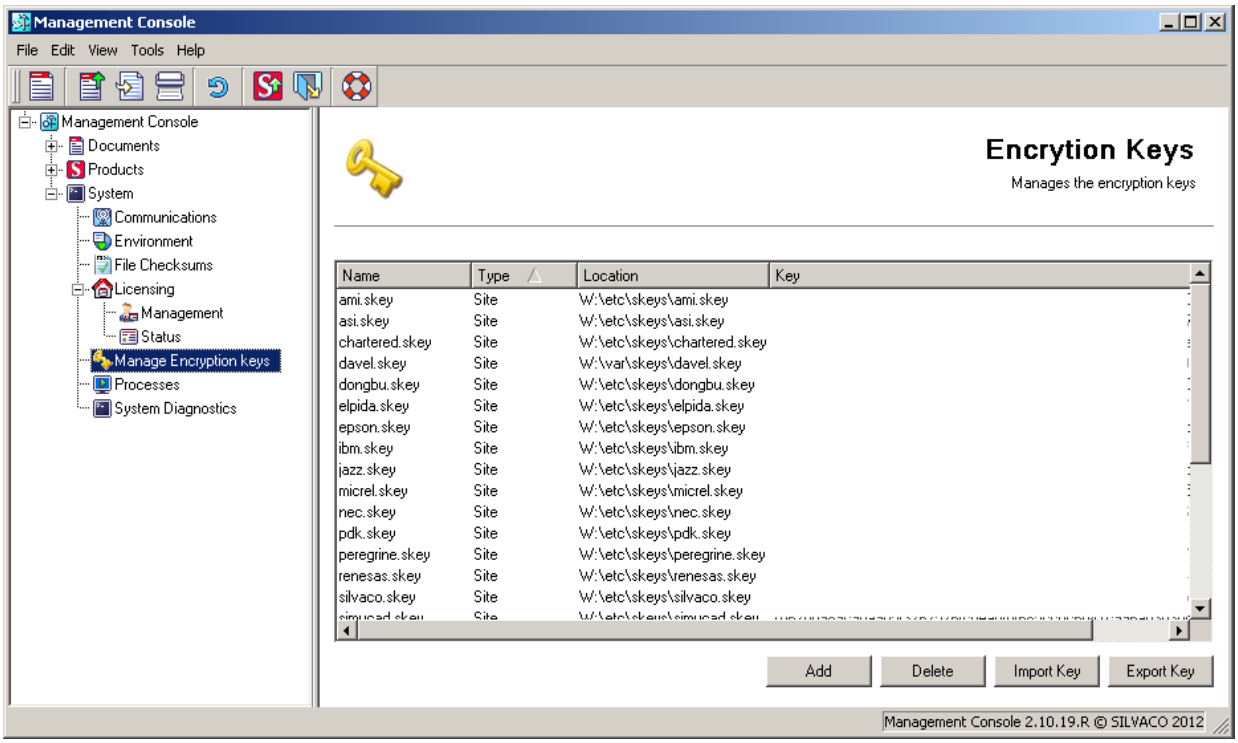


Figure 2-20 Manage Encryption Keys Screen

2.4.7 Processes Information

The Processes Information screen (Figure 2-21) displays all the processes that are currently running on the machine (on Windows it will also display a list of all the services).

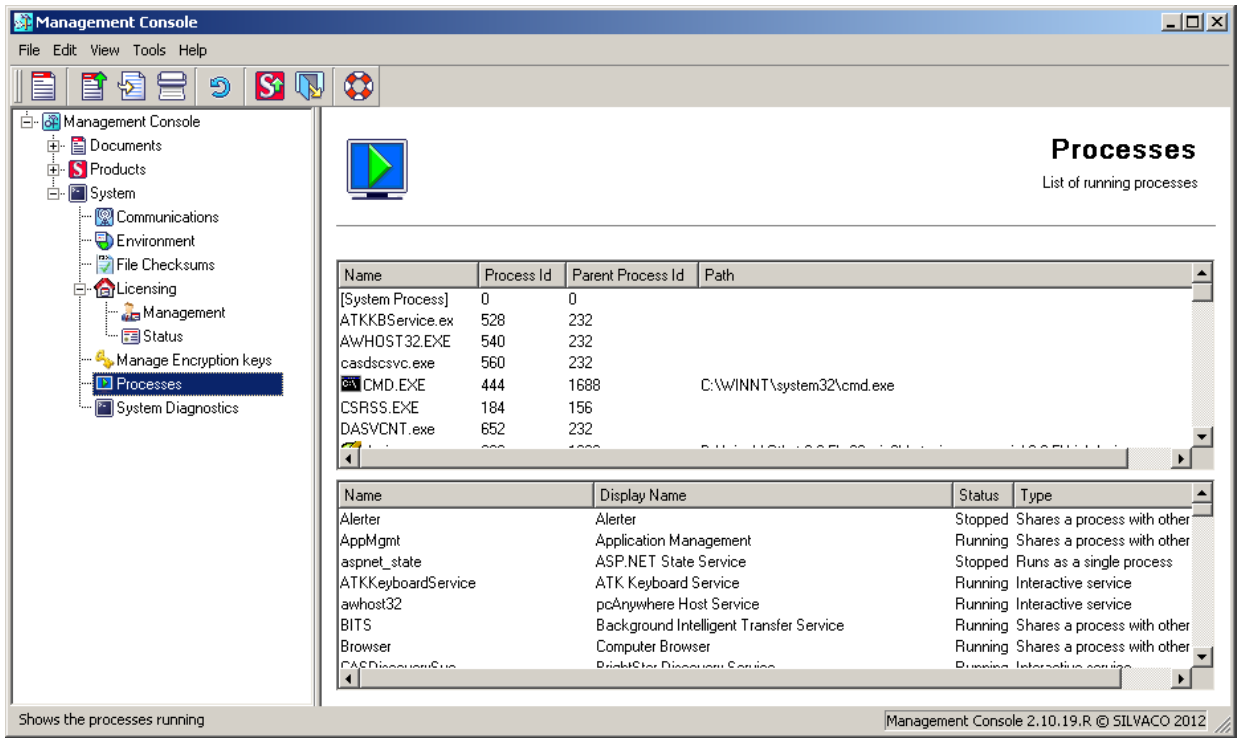


Figure 2-21 Processes Screen

2.4.8 System Diagnostics Screen

The System Diagnostics Screen (Figure 2-22) performs platform specific diagnostics that allows SILVACO to troubleshoot the problem on the machine. These diagnostics include network and system information about the machine that the report was run on.

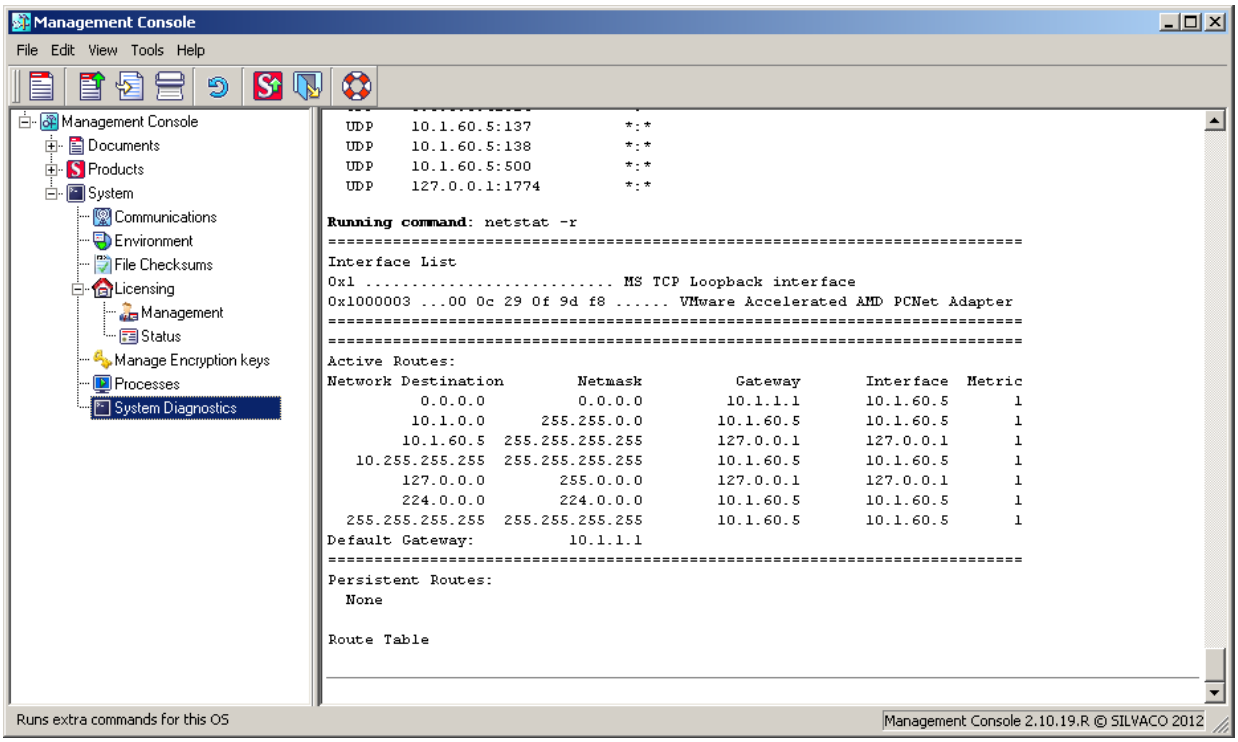


Figure 2-22 System Diagnostics Screen

Chapter 3
Preferences

The Preferences dialog allows you to set preferences, such as how to extract updates, when to warn on hourly charges, configuration of toolbars, and shortcuts.

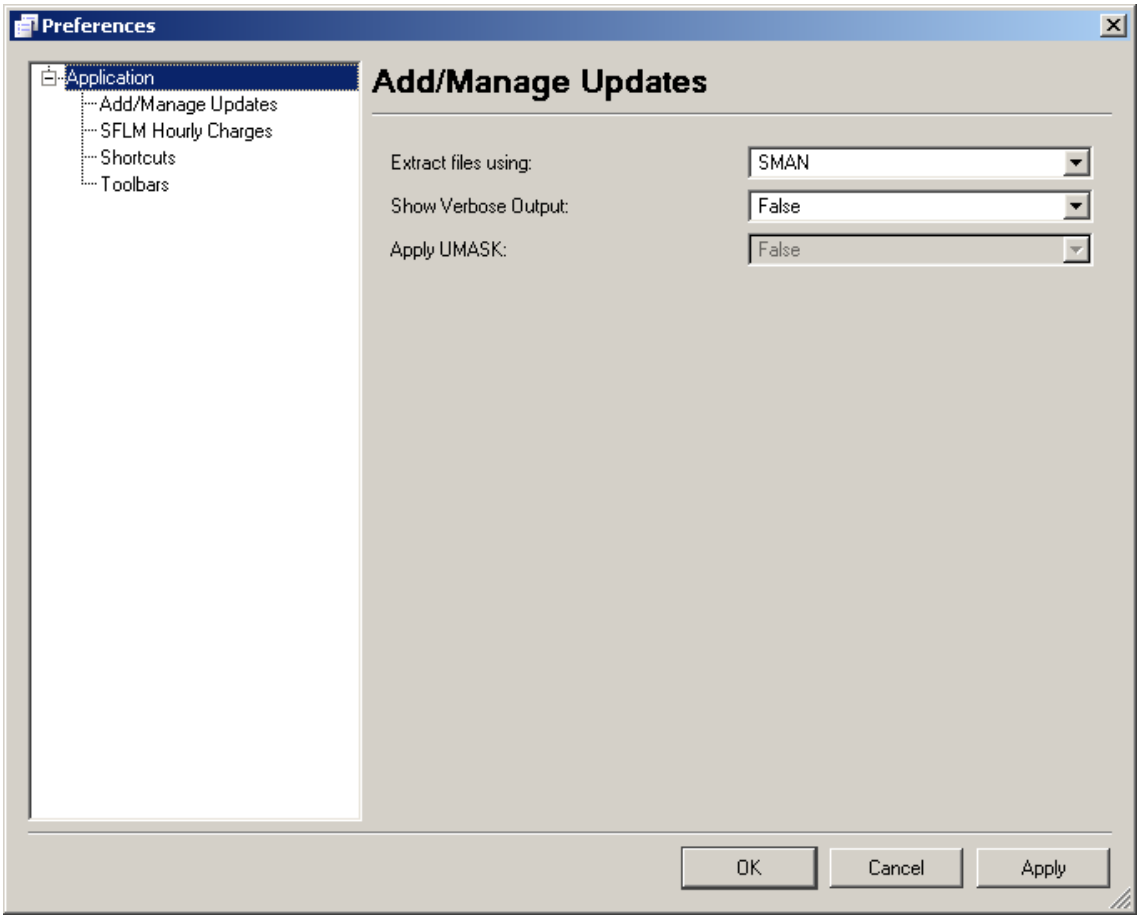


Figure 3-1 Preferences Dialog

Chapter 4
Reports

4.1 Generating a Report

This chapter describes the generating of reports in SMAN. To generate a report in SMAN, select **File→New Report** (Figure 4-1).

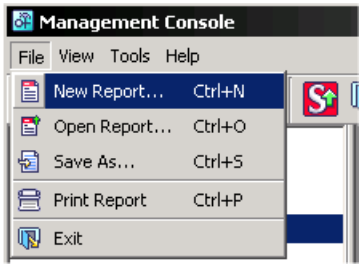


Figure 4-1 New Report

Once selected, the report will be generated and a summary will appear (Figure 4-2).

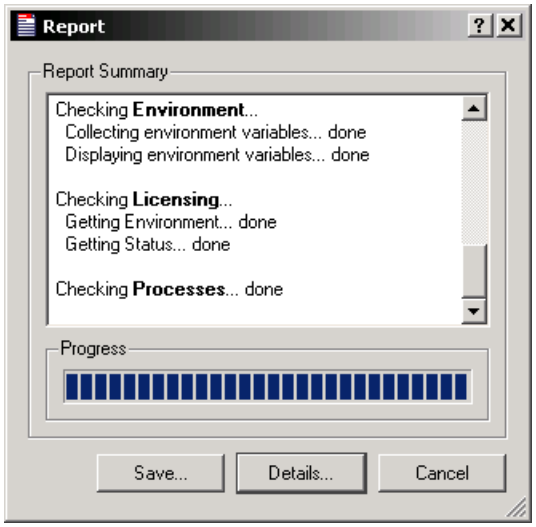


Figure 4-2 Report Summary

The Report Summary will show the progress of the report generation. Once the progress bar stops, you can save, show the details or cancel the report. If you press **Save**, the following dialog will ask you for a name to choose to save the report under (report files end in the extension `.rpt`).

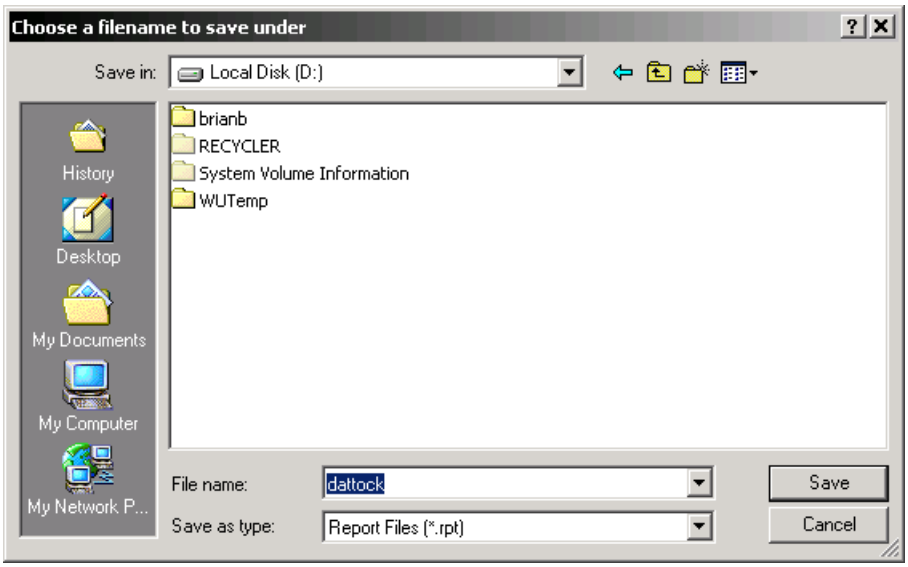


Figure 4-3 Saving a report

If you press **Details**, the details of the report will appear (Figure 4-4).

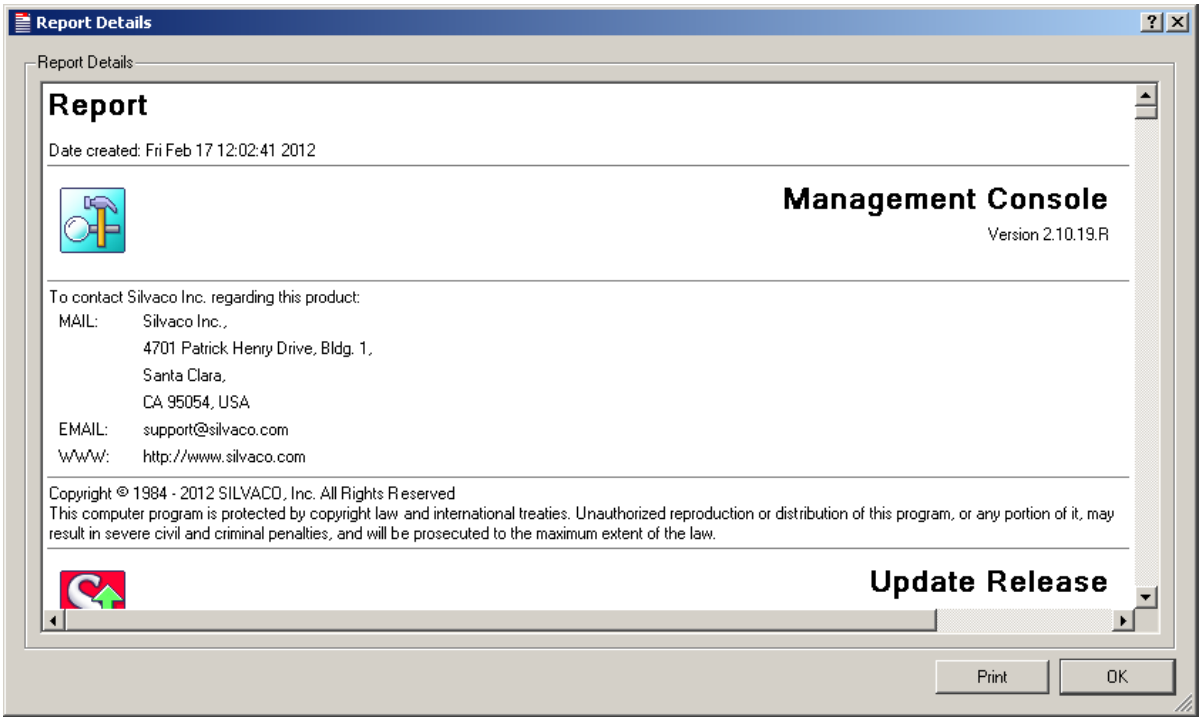

Report Details
Report Details
Report
Date created: Fri Feb 17 12:02:41 2012
Management Console
Version 2.10.19.R
To contact Silvaco Inc. regarding this product:
MAIL: Silvaco Inc.,
4701 Patrick Henry Drive, Bldg. 1,
Santa Clara,
CA 95054, USA
EMAIL: support@silvaco.com
WWW: http://www.silvaco.com
Copyright © 1984 - 2012 SILVACO, Inc. All Rights Reserved
This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent of the law.
Update Release
Print
OK

Figure 4-4 Report Details

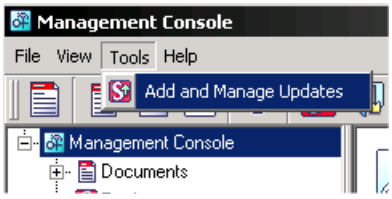
Appendix A
Installing Updates

A.1 Updating SILVACO Products

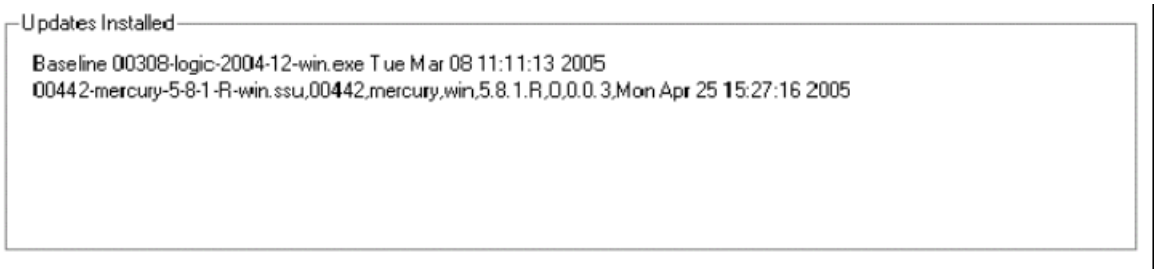
The following section describes the steps to install updates for SILVACO products.

A.1.1 Step 1: Start the SILVACO Management Console (SMAN).

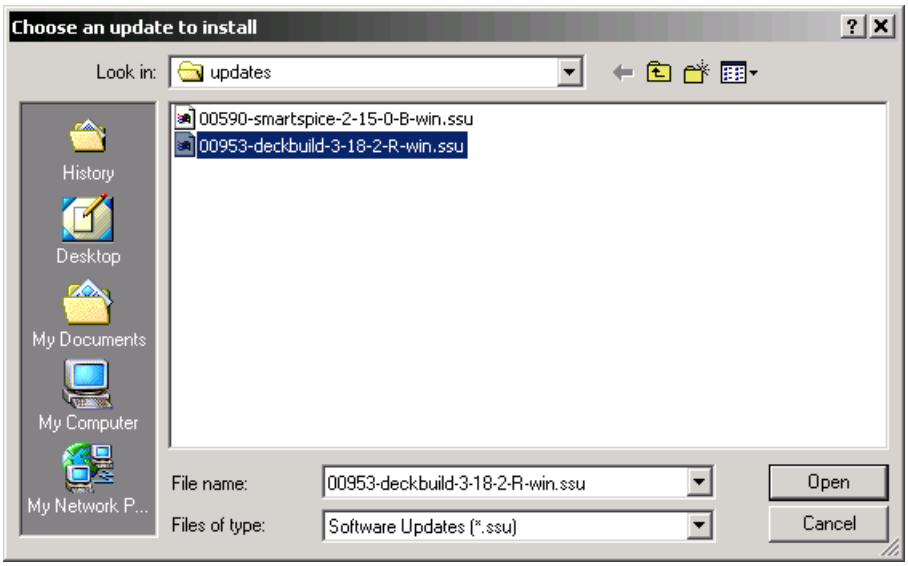
A.1.2 Step 2: Select the Add and Manage Updates button ( ) from the toolbar or from the Tools menu.



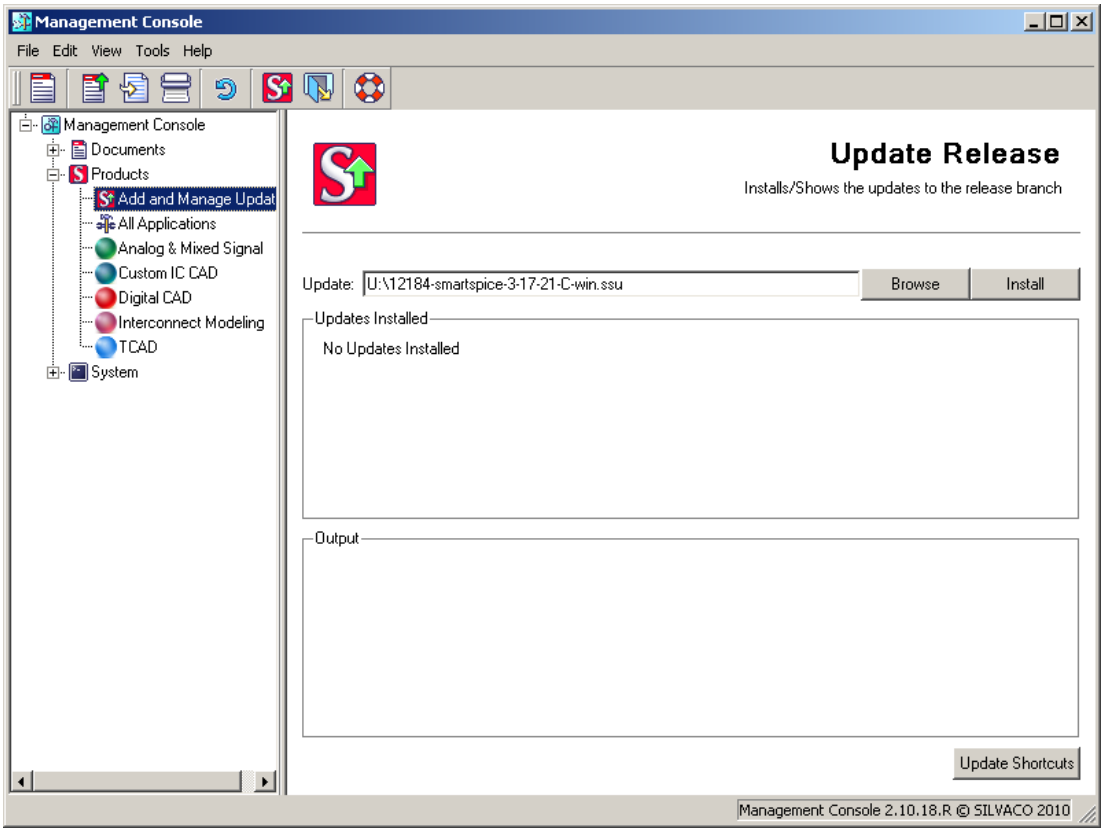
A.1.3 Step 3: The Updates Installed window lists all installed baselines and updates.


Updates Installed
Baseline 00308-logic-2004-12-win.exe Tue Mar 08 11:11:13 2005
00442-mercury-5-8-1-R-win.ssu,00442,mercury,win,5.8.1.R,0,0.0.3,Mon Apr 25 15:27:16 2005

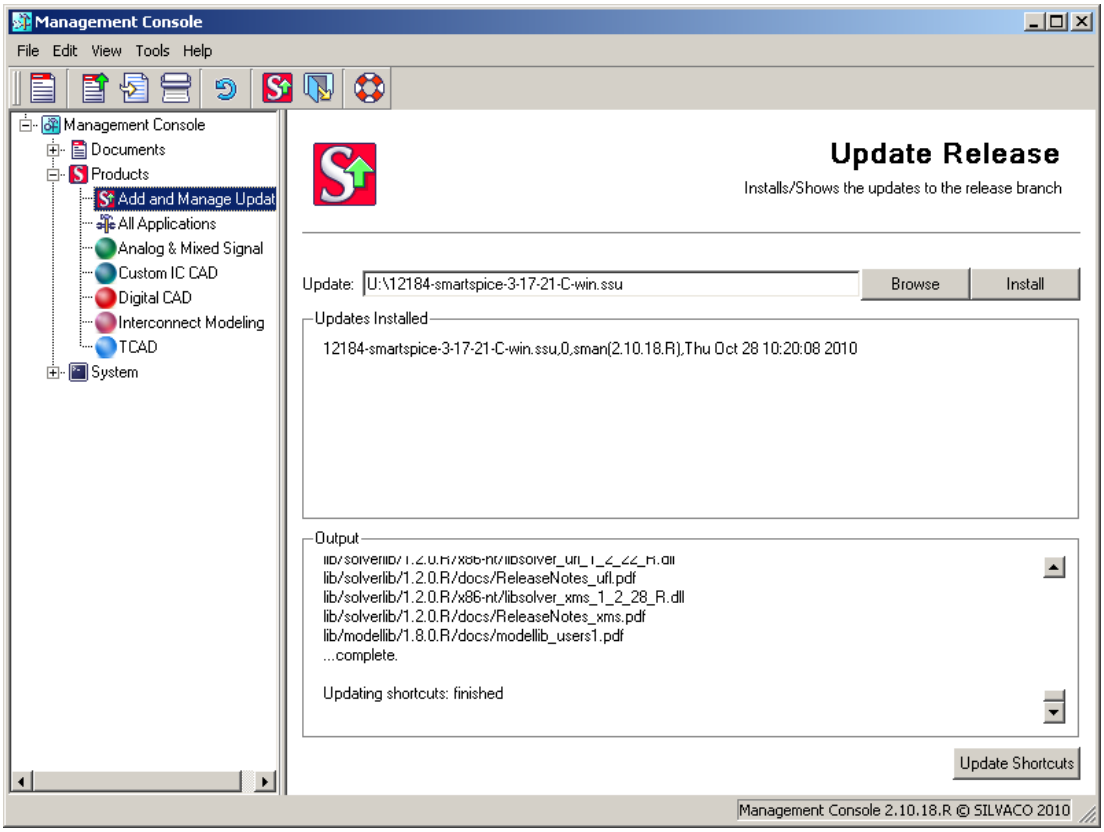
A.1.4 Step 4: Click on the Browse button and select the update (.ssu) or baseline (.exe, .tar.gz, .tgz) file to install.



A.1.5 Step 5: Click the Install button.



A.1.6 Step 6: The update or baseline will be installed and any installation output will be displayed in the Output window.



A.1.7 Step 7: A copy of all baseline and update files will be placed in the $Silvaco\updates directory (where $Silvaco is the installation directory for SILVACO products).

Appendix B
Shortcuts

B.1 Updating Shortcuts

The following section describes the steps to update the shortcuts and how the SILVACO Management Console (SMAN) maintains the shortcuts.

On Linux and Windows, SMAN creates shortcuts to the products that you have installed.

On Windows, SMAN will create a desktop shortcut pointing to the Shortcuts directory (`$S_INSTALL_ROOT/Shortcuts`). The desktop shortcut will reflect this if the path to this directory is contained on a shared directory or network drive. Also on Windows, the program menu will be created with each version of the products. See Figure B-1.

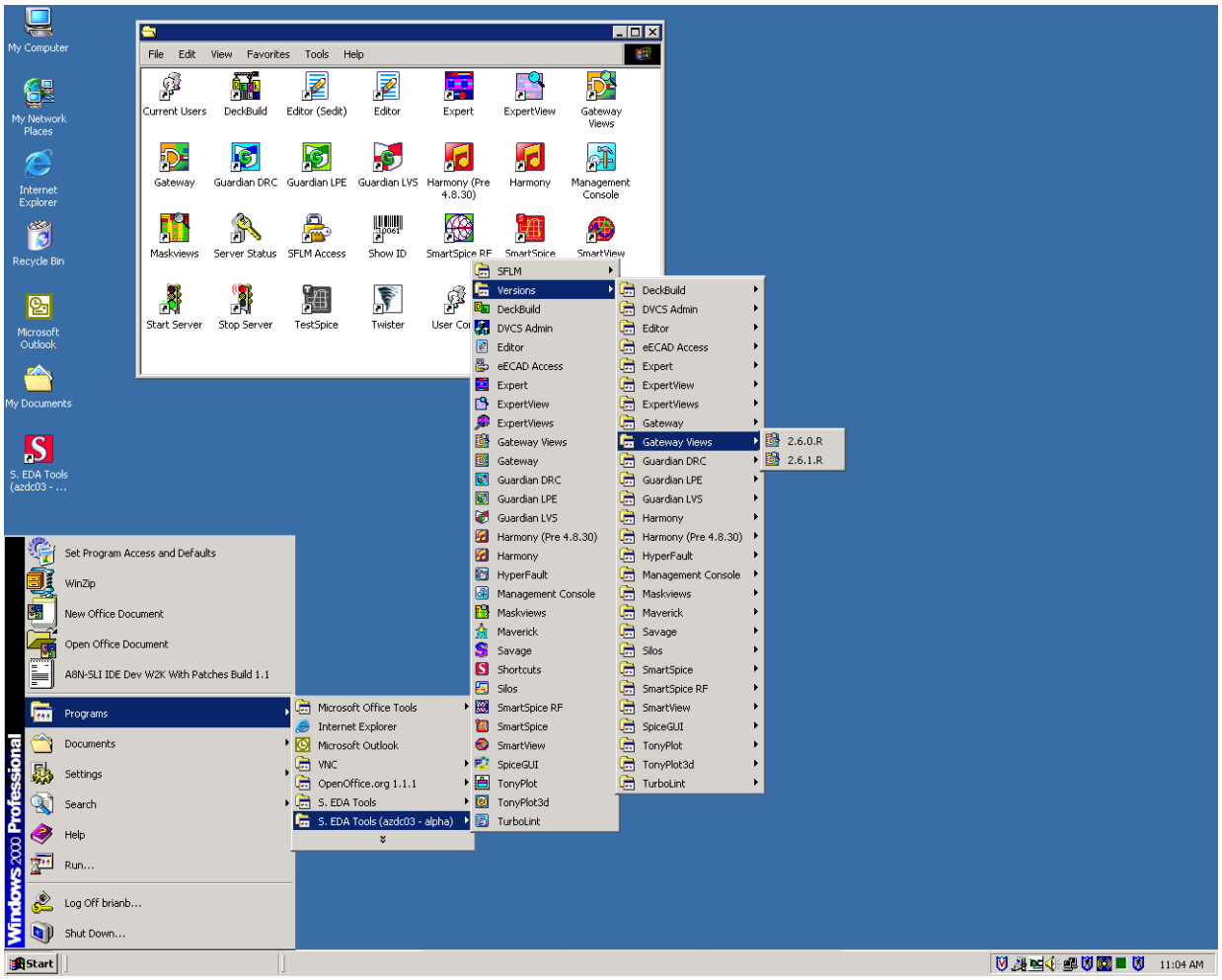


Figure B-1 Windows Desktop

On Linux, SMAN will create a desktop folder. This will contain the shortcuts of each product. This folder is created under the home directories `$HOME/Desktop` and `$HOME/.gnome-desktop` to take into account the KDE and GNOME desktops. See Figure B-2.

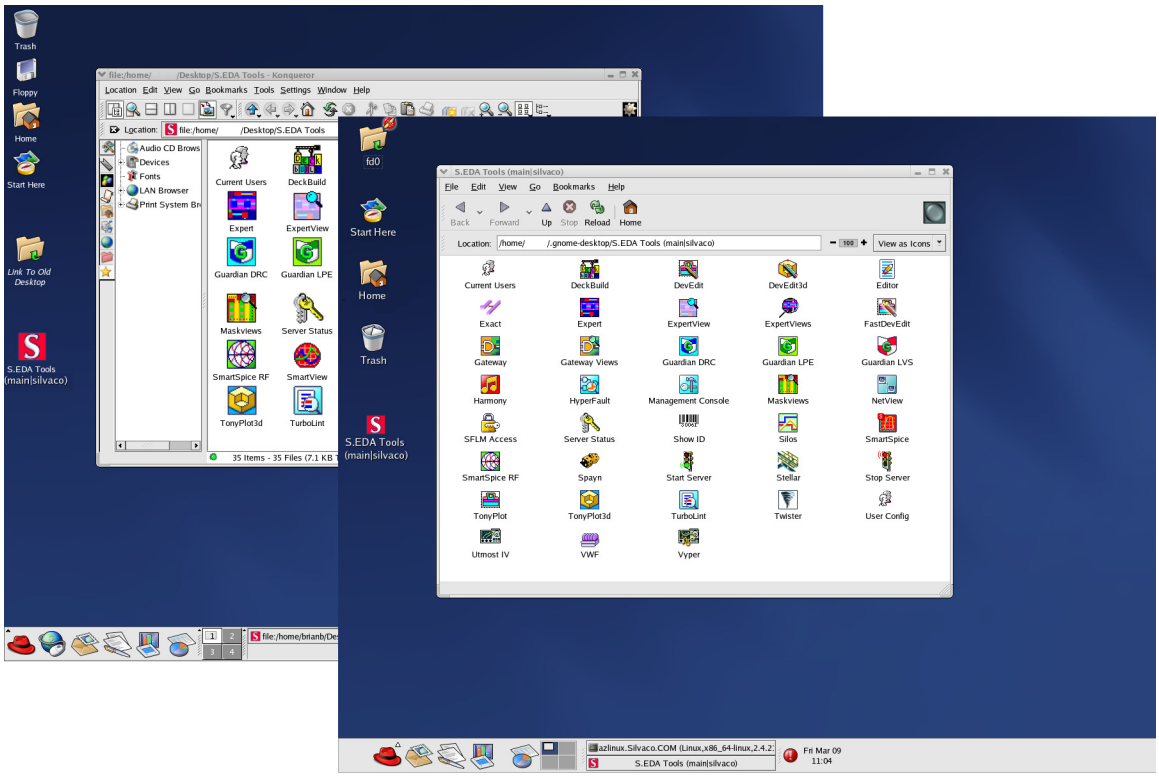


Figure B-2 Linux Desktops (GNOME & KDE)

B.2 Managing Shortcuts

SMAN also manages the shortcuts by making sure that the shortcuts are up-to-date with the installed versions. This check is performed every time SMAN starts. It does this by comparing the date when the shortcuts were last updated and when the last baseline or package was installed. If the dates are different, you will be prompted with the following question (Figure B-3).

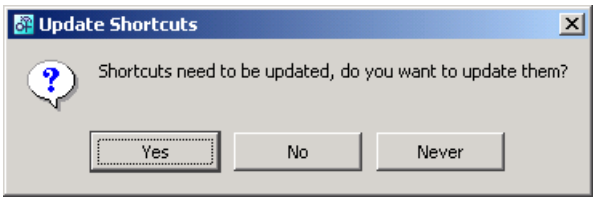


Figure B-3 Update Shortcuts

If you answer **Never** to the above question, it means that you will not be prompted until the next package is installed.

You can update the shortcuts manually by typing in the command-line option `-shortcuts` (i.e., `sman -shortcuts`) or by clicking the **Update Shortcuts** button on the Add/Manage Shortcuts screen (Figure B-4).

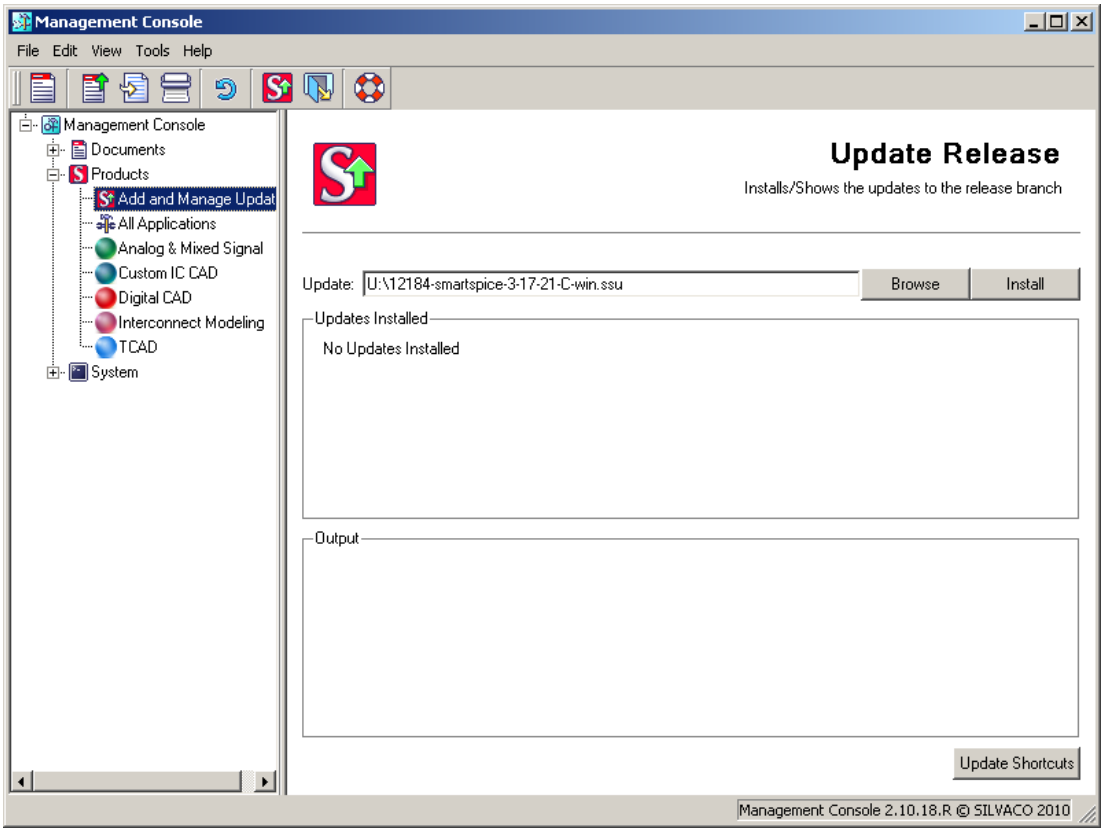


Figure B-4 Add/Manage Shortcuts

Appendix C
Hourly Charge Clock

C.1 SFLM Hourly Charges

The following section describes the SFLM Hourly Charges clock, which is embedded in SMAN. This clock gives you the ability to see how much time you have to run the various SILVACO products.

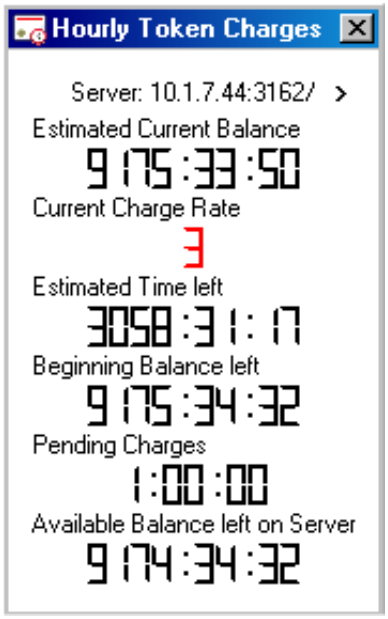


Figure C-1 SFLM Hourly Charges

The clock shows various fields that depict such things as the Balance on the Server, any Pending Charges, and estimates of how much time is left given the current charge rate.

The clock by default polls the SFLM server every 15 seconds to check if any of the numbers have changed. This can be modified in the preferences for the clock, which are accessed through the context menu.

The preferences also allow you to set different thresholds for each number and will change the color of the number to denote when the threshold has been hit.

To access the clock, use the menu option in SMAN (**Tools→SFLM Hourly Charges**) or run SMAN from the command line with the switch `-clock` (e.g., `/opt/seda/bin/sman -clock`).

Appendix D
Encrypting a File

D.1 Encrypt File

The following section describes how to encrypt a file using SMAN. This file will be encrypted by using the SENCRYPT tool and allows the use of the keys stored in the SILVACO installation area.

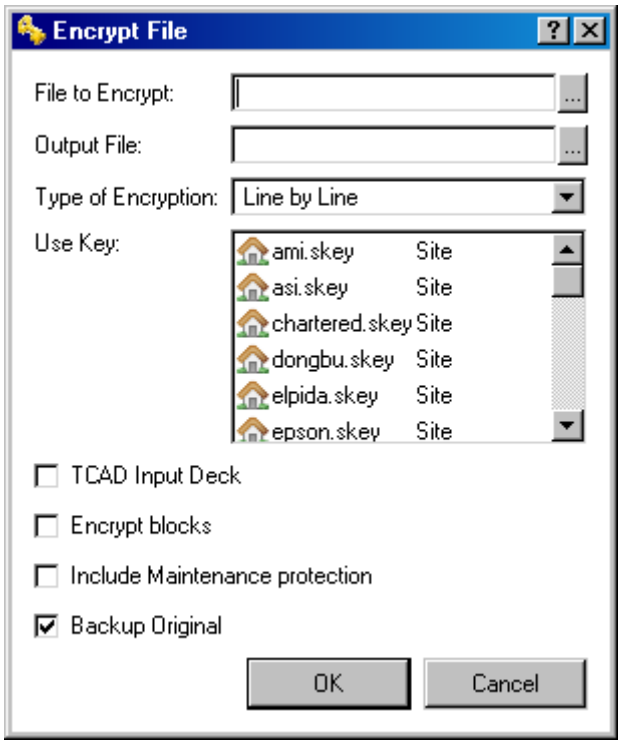


Figure D-1 Encrypt File Dialog

To access the Encrypt File dialog, select from SMAN **Tools→Encrypt File**. The dialog has various options to allow different parts of the file to be encrypted or whether to include a maintenance time in the file. These options are

- Type of encryption
- Use Key
- TCAD Input Deck
- Encrypt blocks
- Include Maintenance protection
- Backup Original

Type Of Encryption

This option allows you to specify whether to use Line by Line or Entire File encryption.

Line by Line encryption will encrypt each line (ending in a newline character), which is useful for ASCII files. This adds the `-at` command line argument to SENCRYPT.

Entire File encryption is used to encrypt binary files and will encrypt the entire file.

Use Key

This option allows you to pick one or more keys to be applied to the file when encrypting. This adds a `-skey=<key>` to the command line arguments to SENCRYPT for each `<key>` selected.

TCAD Input Deck

This option must be used if the file that is being encrypted is a TCAD input deck that is to be processed by DECKBUILD. This is so that DECKBUILD can decrypt the file to be set to its associated programs. This adds the `-deckbuild` command line argument to SENCRYPT.

Encrypt Blocks

This option allows you to specify which part of an ASCII file may be encrypted. This adds the `-protect` command line argument to SENCRYPT.

Include Maintenance protection

This option allows you to only allow other users to use this file if their license is valid at the time of encryption. This adds the `-mtime` command line argument to SENCRYPT.

Backup Original

This option informs SMAN to make a copy of the original file to be encrypted. This is useful if you want to encrypt (and use) the file immediately. This option is on by default as there is no decryption tool.